An Oration
ON
EMPIRICISM OR SCIENCE?—ANÆSTHETICS, 1847–1897.

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LADIES AND GENTLEMEN,—No great scientific discovery has been made without bloodless battles having been fought and adverse champions drawn up in army array. The discovery of anæsthesia is no exception to this statement. Even now the clarion notes of the fierce fight ring clear through the air and men's minds grow warm with angry despite as they hear the cry of battle from opposing ranks. Man is a fighting animal, and while he strives to assuage the sufferings of poor humanity he finds solace in pointing out the folly of those whose opinions he traverses and whose positions in argument he assails, crying, "No quarter; No surrender." Nor has the fight been one of individuals; there has been a contention of nations. We meet to-night to celebrate the fiftieth anniversary of the introduction of chloroform, to do honour to its champions, to range in line the growing wealth of knowledge which for half a century has accumulated about the practice of anæsthesia. As an outcome of this the question rises into prominence and presses for an answer—Is the whole art and science of the medical man who practises in anæsthetics a matter of empiricism, or has he the right to claim for his calling the proud distinction of a science and for his practice the equally aspiring title of a precise art? Dr. Robert Davis,[1] speaking on the interesting occasion of the semi-centenary of the first public demonstration of the use of sulphuric ether as an anæsthetic, insisted upon the point that the discovery of anæsthesia was no accident. Yet the history is fraught with many strange things which show how near many men came to the bourne of discovery but returned unenlightened, and how nearly did those who eventually won the laurels awarded to discovery turn aside and relinquish the quest. Davy, Horace Wells, Faraday, Crawford Long, are names which leap into the mind. Davy, who actually inhaled nitrous oxide gas and realised its anæsthetic properties at the close of the last century; Faraday, who actually suggested that sulphuric ether should be employed for the assuaging of pain in 1818, as Davy had done for nitrous oxide; Samuel Guthrie, of Brimfield, Massachusetts,[2] prepared chloroform but left its discovery as an anæsthetic to Sir James Y. Simpson. Long used ether in 1842 and even placed patients under its influence for surgical operation, but as he failed to communicate his experience to the world the public proclamation of ether was left to Morton. Claimants to a knowledge of the properties of the various anæsthetics have been many. There is no doubt that all great discoveries are in the air—if I may be allowed the expression—even before the man of the hour comes forth and fearlessly takes the world into his confidence and announces his discovery. That man is the true benefactor of his day and generation and whatever may have been the assistance he has derived from those who went before he still remains the centre figure and justly is placed in a niche in Fame's temple.

It has been well said that to realise to the full the benefits of anæsthesia we must recall the days of surgery before 1846. A vivid enough picture is given in Professor Miller's "Surgical Experiences of Chloroform." He recalls how Abernethy before an operation had exclaimed. "I feel as if I was going to be hanged"; while Cheselden turned sick at the thought of the pain he was about to inflict and Liston lay awake in mental anxiety on the eve of his operation days. If surgeons grew faint, alas for the patients! Speaking of the patient it is said, "His progress might be traced by frightful yellings or at least by sobs of deep distress, and occasionally a number of stout assistants scarcely sufficed to prevent on the way a self-effected rescue and escape. All this was bad, painful, injurious, unseemly. All such scenes are now unknown."[3]

The wife of a distinguished surgeon recalls how terrible were the sounds with which her ears were assailed as seated in the rooms of her residence within the precincts of a large London Hospital she heard the cries of the unanæsthetised patients on the one hand and the moans of the no longer dumb beasts passing into Smithfield upon the other—sounds, too dreadful to be recalled without a shudder. Simpson, like many another, quailed before the ordeal of carrying on surgery under such conditions and decided against medicine as a profession. However, he found law still less to his taste, and in 1836 while house-surgeon to the lying-in hospital at Leith he sought means whereby the pangs of suffering humanity could be alleviated. Mesmer had been born a hundred years before this, and although the fraud of his pretensions had been exposed by the celebrated commissions appointed in France to investigate animal magnetism, yet Cloquet, Loysel, and other surgeons had actually performed surgical operations on hypnotised subjects. Herbert Mayo, surgeon to the Middlesex Hospital, and Elliotson, some time physician to St. Thomas's and University College Hospital, both of whom, alas, paid with their professional ruin for their enthusiasm for hypnotism, wrote on the mesmeric sleep about this time (1837). Braid and others contended that in the mesmeric trance was to be found the panacea for surgical suffering, if not a universal therapeutic armamentarium. Simpson employed the mystic passes of Braid's neurohypnology. He never, as far as I know, employed hypnotism for surgical anæsthesia. However, with Morton's successful demonstration before Warren, Bigelow, Gould, Parkman, Hayward, Townsend and the younger Warren, ether was flashed forth upon the world as the desideratum hoped for so long. Oliver Wendell Holmes invented the word and "anæsthesia" was an accomplished fact. It would be as tedious as it is unnecessary for me to attempt to describe the various causes which very rapidly led surgeons to regard ether with some disfavour. The methods of giving it were very inexact, many failures occurred; anæsthesia was too often an interchangeable term for wild maniacal excitement, and the operator had to use his knife with much deftness to avoid doing his patient a mortal injury as he struggled and fought under the exhilarating effects of an inadequate amount of ether vapour. Majendie[4] spoke contemptuously of it, alleging that the operation done under ether "was an experiment performed on intoxicated subjects, some of whom were rendered unconscious of pain while some were not"; a patient, he alleged, sprang from his couch while an operation was in progress and shook his gory hand in the face of the surgeon and his assistants. Some persons recommended a sort of full dress rehearsal of the proceedings. The patient was to inhale ether to see how it affected him, and if the result was satisfactory the process was repeated and the operation performed. Three deaths had been reported by March, 1847,[5] and while many surgeons declared the use of ether a dangerous innovation the Canton of Zurich actually promulgated an order that its use should be discontinued. "In fact," says a writer at this date, "it is a question in all men's minds—Is not the use of ether in operations too uncertain and dangerous a resource surgically to be had recourse to?" Many of the rules and precautions then suggested would surprise members of this society. Let me mention two. On no account, we are told, should an inhalation of ether be continued for more than a quarter of an hour or should more than two ounces be inhaled! Simpson, however, hailed with acclaim the new anæsthetic and gave ether to a lying-in patient on Jan. 19th, 1847 and with his usual promptitude communicated his experience on the following day to the Obstetrical Society of Edinburgh.[6] He at once commenced his experiments upon various drugs

[1] Reminiscences of 1846 Anæsthesia Semi-Centenary, Boston, 1897, p. 22.

[2] See Chicago Medical Recorder, August, 1897, and the Life of Samuel Guthrie, by his Son; also Silliman's American Journal of Sciences and Arts, vol. xxxi., January, 1832, in which appears an article wherein Guthrie describes his method of preparing chloroform (chloric ether).

[3] Life of Sir J. Y. Simpson, by Miss Simpson, Famous Scots Series, p. 66.

[4] Medical Times and Gazette, vol. xv., p. 383.

[5] Op. cit., p. 107.

[6] Edinburgh Monthly Journal of Medical Science, February, 1847

which might prove possible anæsthetics. Simpson, George Keith and Matthews Duncan met after dinner at Simpson's house and inhaled the anæsthetic and were in due time rendered more or less insensible.[7] Thus were tried "chloride of hydrocarbon, perchloride of formyle, acetone, nitrate of oxide of ethyl, benzin, and other vapours."

An incident of what may be called an accidental character was the use by Jacob Bell and Mr. Lawrence in London and by Bigelow in America of chloric ether or chloroform dissolved in spirits of wine. Had Bell only gone one step further chloroform would have been an accepted anæsthetic. One of Morton's first essays had been with this substance and possibly he suggested its employment to the surgeon. However, the results obtained were uncertain and little attention was attracted to the substance, so little indeed that when Simpson asked Waldie what substances were worth experimenting with from the point of view of anæsthesia he appears not to have heard of Bell's trials of chloric ether. Now happened another "chance occurrence." Waldie failed to supply the promised sample of chloroform, and but for Mr. Hunter, of Messrs. Duncan and Flockhart's, Simpson's inhalation of chloroform might have been indefinitely delayed or even not made at all. As it was the experiment was made, and Simpson thus describes it: "I had the chloroform for several days in the house before trying it, as after seeing it such a heavy, unvolatile-like liquid, I despaired of it, and went on dreaming about others."[8]

Simpson was from the first firmly impressed with the view that in chloroform he had found the crowning height of anæsthesia, although his mind was too free from bigotry not to look for and hope for a still more perfect anodyne. Beyond the experiments made upon the bodies of himself and his friends Simpson appears to have felt no call for physiological inquiry into the properties of this wonderful discovery. He collected statistics and studied his cases but there the matter ended. His teaching, however, was very definite and derived from his personal experience, and as it is seldom quoted correctly I may here give his own words: "When used for surgical purposes perhaps it will be found to be most easily given upon a handkerchief gathered up into a cup-like form in the hand of the exhibiter and with the open end of the cup placed over the nose and mouth of the patient. For the first inspiration or two it should be held at a distance of half an inch or so from the face and then more and more closely applied to it. To ensure a rapid and perfect anæsthetic effect, more especially where the operation is to be severe, one or more teaspoonfuls of the chloroform should be at once placed upon the hollow of the handkerchief and immediately held to the face of the patient. Generally a snoring sleep speedily supervenes and when it does so it is a perfect test of the superinduction of complete insensibility. But a patient may be quite anæsthetic without these symptoms supervening."[9]

Syme, whose dicta upon this subject have been accepted as the rallying point of the Edinburgh school, has not given any account of any scientific explanation of the action of chloroform, nor have I been able to ascertain that that illustrious surgeon did more than epitomise his views of chloroform in a clinical lecture delivered during the winter session of 1854-55 in his class in the University of Edinburgh. After dealing somewhat severely with the methods of giving chloroform in vogue in London he goes on to say: "I am very far from taking any credit to myself. All I have done has been to follow the example of Dr. Simpson." Syme insisted that the London method failed because it did not carry out Simpson's directions. He says: "The points that we consider are of the greatest importance in the administration of chloroform are, first, a free admixture of air with the vapour of chloroform, to ensure which a soft porous material such as a folded towel or handkerchief is employed, presenting a pretty large surface, instead of a small piece of lint or any other apparatus held to the nose; secondarily, if this is attended to the more rapidly the chloroform is given the better till the effect is produced; and hence we do not stint the quantity of chloroform. Then—and this is a most important point we are guided as to the effect not by the circulation but entirely by the respiration; you never see anybody here with his finger on the pulse while chloroform is given. So soon as the breathing becomes stertorous we cease the administration; from what I have learned it is sometimes pushed further elsewhere, but this we consider in the highest degree dangerous. Attention to the tongue is another point which we find of great consequence. When respiration becomes difficult or ceases we open the mouth, seize the tip of the tongue with artery forceps and pull it well forward; and there can be little doubt that death would have occurred in some cases if it had not been for the use of this expedient. We also always give the chloroform in the horizontal position and take care that there is no article of clothing constricting the neck. There are thus considerable differences between our practice and that which prevailed more or less elsewhere. We use no apparatus whatever, take the respiration for our guide, attend to the condition of the tongue, and never continue beyond the point when the patient is fully under the influence of the anæsthetic."[10]

Syme's success in the use of chloroform is a matter of history, but his method was empiricism. Although he taught that the respiration rather than the circulation was the guide to be followed I gather from Professor Buchanan that Syme never expressed himself upon the subject of heart failure under chloroform. Simpson, however, did this, and did it very emphatically. In his first paper, 1847, he said that chloroform "it given in too great or too long continued doses would doubtless produce serious consequences and even death," and writing in February, 1870, Simpson narrated a case of death under chloroform when he gave the anæsthetic with his own hands. The death was that of a young woman and it occurred in the small village hospital at Alloa. He says: "I chloroformed the patient. In doing so I placed a single layer of towel over the nose and mouth leaving the eyes exposed, and dropped chloroform upon the towel." During the first incision "the patient moved so much that he [the surgeon] stopped for a brief time till I put the patient more deeply under the effects of the anæsthetic." The patient vomited suddenly and profusely during the operation. "Immediately the eyes opened the pupils were preternaturally dilated, the face looked pallid, and the respiration which had never been affected by the chloroform so as to have the least noise or stertor in it seemed arrested. Immediately artificial respiration was set on foot and the tongue pulled forward. Deep, spontaneous respiration then occurred several times in succession and I deemed at the moment that the patient was hence out of danger, but a second collapse occurred which terminated in death, all means of resuscitation proving unavailing." Remarking upon this occurrence Simpson said: "According to all the experimental and clinical observations which have been made chloroform appears capable of destroying life in two ways, namely (1) by asphyxia and (2) by syncope. Death by asphyxia can generally, if not always, be avoided by at once arresting the inhalation of the drug whenever the breathing becomes noisy or stertorous, states which, as already mentioned, never occurred with the preceding patient. Syncope or sudden stoppage of the action of the heart is doubtless far less under control and has apparently formed the principal cause of fatal issues in almost all cases in which patients have perished when under the use of chloroform."[11] The courage and honesty of the man are wonderfully brought out by the prompt publication of this death under his hands, and Simpson's claim to our unstinted admiration is certainly strengthened when we look at him not only as a discoverer, as a patient and conscientious observer, but as one who felt that to suppress facts averse to any theories of safety which he might have held would be a departure from that high standard which he had always set before himself in his professional career. When I say "discoverer" it must be clearly understood that I claim for Simpson not the discovery of chloroform, for that was made by Samuel Guthrie an American, by Souheiran a Frenchman, but the discovery of its anæsthetic powers and its introduction into the practice of surgery. Simpson contended that syncope occurred under chloroform and had occurred in pre-anæsthetic days, and although he did not waver in his adhesion to his first method of giving the anæsthetic he yet cautioned his followers against a foolhardy belief in the extreme safety of this powerful drug which he had been the means of bringing into use.

On Nov. 10th, 1847, the famous paper, "Notice of a New Anæsthetic Agent as a Substitute for Sulphuric Ether in Surgery and Midwifery," was read before the Obstetrical Society of Edinburgh and chloroform made its bow before

[7] See Anæsthesia, p. 165 of Simpson's Works.
[8] Life of Sir James Young Simpson, p. 57.
[9] Simpson's Collected Works, p. 159.
[10] THE LANCET, Jan. 20th, 1895.
[11] Simpson's Anæsthesia, p. 149.

the world. To us it is almost incomprehensible that chloroform should have called forth the most rancorous opposition and acrimonious criticism from those who undertook in the words of the most sacred of writings to prove that at best chloroform was a snare of the arch enemy of mankind. We can now afford to smile at such well-meant twaddle, for even yet at the end of the nineteenth century we have to show patience towards and wish that greater enlightenment should come upon those persons who in the name of religion seek to check experimentation and sap the tree of knowledge by peddling appeals to an hysterical and ill-informed coterie of sentimentalists. The powerful advocacy of Simpson and the Edinburgh surgeons soon carried chloroform beyond the shallows of its period of trial and the new anæsthetic became an accepted agent. At this time there were no very clear views entertained about its physiological properties and Flourens in France and Snow in England undertook careful research into its mode of action. The classical researches of Flourens and Longet had early in the "forties" shown the order in which the component parts of the nervous system yielded before death occurred. So long as the medulla remained guarded the organism was held to be safe. With the advent of anæsthesia came a host of theorisers who spent valuable time in elaborating hypotheses designed to explain the mechanism of narcosis. Thus we find the observers Lallemand, Perrin, and Duroy teaching that chloroform possessed an elective affinity for the nervous tissues. Flourens, indeed, regarded chloroform as a most dangerous body and inveighed against its use in surgery. He had, however, employed a vapour with a very high percentage of chloroform with a very fatal result.

Various theories more or less beside the truth were started connecting anæsthesia with blood changes. In 1848 Snow commenced his papers on Narcotism by the Inhalation of Vapours, and with his work a nearer approach to physiological investigation of the action of anæsthetics was inaugurated. He sought to show that chloroform acted according to the dose administered and according to the dilution practised. Simpson's rules as far as they went laid down a safe basis for administration, but the *rationale* underlying that safety was only elucidated by the work of Snow and his successors. While Simpson found experience from his practice upon his fellow human beings, courageously placing himself first in all such experiments, Snow adopted a safer and more satisfactory plan of using the lower animals—more satisfactory because test conditions could be imposed. His experiments are fully set forth in his classical work on Anæsthetics, a monumental book written by one of the world's great men. Snow's experiments, which were made upon small mammals and birds, led him to the following conclusions. He used the term "narcosis" as designating the entire effects of the chloroform upon the nervous system, restricting that of "anæsthesia" to mere deprivation of feeling. He taught that various *degrees* of narcotism were produced by certain definite quantities of the anæsthetic. "The division into degrees is made according to symptoms which I believe depend entirely on the state of the nervous centres and not according to the amount of anæsthesia, which there is good reason to conclude depends to a great measure on the local action of the chloroform on the nerves."

This was a distinct advance in our knowledge and was derived entirely from experimental data. The animals experimented upon were placed in chambers which contained enough air for their vital requirements and were subjected to various strengths of chloroform vapour, and the symptoms they evinced were carefully noted. With such facts before him Snow attempted to show that, given the weight of the animal and the vital capacity of its lungs, the temperature of the air and its moisture, it was possible to predicate that a definite series of phenomena would ensue upon the inhalation of a given quantity of the anæsthetic. This was perfectly true as far as it went. The fallacy arose from a disregard of the personal equation of the individual as regards power of respiring, predisposition to syncope, &c. This fallacy, as we shall see, Snow was fully aware of. He further taught that "when inhaled the local effect of chloroform must be greatest when it has had time to exude through the coats of the vessels into the extravascular liquor sanguinis and come into immediate contact with the nervous fibrillæ. As the brain is without lymph and lymphatics it is possible by a large dose of chloroform to produce complete anæsthesia very suddenly before there is time for the nerves to be acted upon locally to any extent." Snow found that when the dose was sufficient the patient passed from his fourth degree into the fifth, in which respiration failed and the heart continued to beat, until it also ceased owing to stoppage of breathing. However, Snow went further, for he adds: "Although the respiration may be suspended by an amount of chloroform which has very little direct effect on the motion of the heart, it is quite possible to stop the heart's action by the immediate effect of this drug." When warm-blooded animals breathe air containing as much as 8 to 10 per cent of the vapour of chloroform the blood which is passing through the lungs becomes so charged with it as to stop the action of the heart when it reaches that organ through the coronary arteries." He also noted that injection of chloroform in water produced loss of muscular irritability and finally post mortem rigidity.

Snow spoke with no uncertain voice in dealing with the action which chloroform exerted upon the circulation. The pulse, he says, "affords no criterion of the amount of narcotism," for even under formidable operations its volume and force remain unaltered. One is struck here, as whenever studying the work of this remarkable man, that his conclusions have in most cases anticipated those of the later and most accomplished experimentalists, and if some of his experiments were crude and his instruments lacking in precision his breadth of reasoning and intuitive grasp of results always placed him on the level of those who with the modern and perfected apparatus of the physiological laboratory have attacked the subject with appliances so exact as to render error almost an impossibility. Snow conducted some experiments with Sibson which led him to believe that section of the vagi made no alteration in the procession of phenomena observed when chloroform was inhaled. Reverting to his experiments undertaken to discover the amount of chloroform requisite to plunge the patient into the various degrees of narcotism we may note that while between one and two grains of chloroform in each 100 cubic inches of air induced surgical anæsthesia, two grains plunged the patient into the fourth or paralytic degree and led to gradual failure first of the respiration and subsequently of the circulation, while three grains caused respiratory failure. He acutely perceived that in warm-blooded animals the problem became a much more complicated one. Not only does Nature safeguard us by lessening the force of respiration and the rapidity of circulation and so stays the intake and deportation of chloroform from the lungs to the heart and the tissues but also exercises a species of check action through the nervous mechanism of the medulla oblongata which tell for the safety of the individual and the diminished intake of the poison. Allowing as far as he could for these controlling and overriding conditions Snow showed that 12 minims of chloroform equally distributed in the circulation of an individual of average weight led to the second degree of narcotism, 18 minims to the third and 24 minims to the fourth, while 36 minims caused respiration to stop. Snow pointed out the obvious disadvantage of Simpson's recommendation of a handkerchief for giving the anæsthetic since he urges that it is impossible by such a method to regulate the proportion of vapour to air which the patient breathes. To Simpson and his school who did not appreciate these facts it was of no moment what quantity of anæsthetic was used provided sufficient air was allowed to enter the lungs to maintain the respiration and sufficient vapour inhaled to obtain anæsthesia. With Snow it was a first principle that you should be able to regulate to a nicety the dose you gave and to limit it exactly in every case. To effect this Snow carefully devised his chloroform inhaler. With it he achieved at least as great a success as did those who, failing to grasp Snow's science, sneered at his inhaler. I may here allude to more recent experiments undertaken by one whose name has been identified with chloroform and whose fame has alike honoured him and the profession he has adorned—I mean Lord Lister. Lord Lister, then Mr. Joseph Lister, in 1861 undertook some very clear experiments[12] and found that the rate of evaporation from a cloth under the test conditions was in point of fact below the danger limit fixed by Snow. Ingenious, however, as are these experiments they are inconclusive, since, although they show the gradual evaporation of a known quantity of the anæsthetic maintained under test conditions as regards temperature, moisture, &c., they do not allow for the sometimes reckless "spilling of two or three drachms" on the handkerchief referred to by

[12] Anæsthetics, in Holmes's System of Surgery, p. 601.

Miller in his "Experiences of Chloroform." The regular and philosophic breathing of the experimentalist who respires beneath a chloroformed cloth in such a way that his inspirations are carefully guarded against taking in the narcotic vapour are hardly quite comparable with those of the average patient about to undergo a mortal operation and who inhales into his lungs a vapour which at first is pungent but grows less so until the person in charge of the "handkerchief, towel, piece of lint, worsted glove, nightcap, or sponge" (I quote Professor Miller again) deems it right to again "spill" another two or three drachms upon the extemporised inhaler. Snow's science taught him that the less you left to the caprice or individual ability of the person giving the chloroform the safer would it be for the patient. He showed that 18 minims of chloroform in the lungs meant not quite 300 cubic inches of vapour in combination with air, the whole of which would be inhaled in twelve breaths. If the inhalation of this strength of vapour were continued until insensibility a large quantity of vapour would remain unabsorbed in the lungs. The 250 cubic inches of air contained in the lungs if saturated with chloroform at 60° F. would contain 30 minims of chloroform. Even if only half of this was saturated the patient would fall into deadly peril. Although the pulmonary air would in practice seldom become so saturated it is evident that the degree of saturation of a towel and the vigour of respiration—as for example a deep breath following a period of apnœa—would expose a patient to danger which would be avoided were the method of giving the narcotic one which limited the supply within the physiological requirements of the patient. The dangers of struggling, the immense importance of watching the respiration, and the deepening of narcosis for twenty seconds after inhalation of chloroform has ceased were all taught by Snow. Sedillot[12] appears to have made an almost simultaneous discovery of this last fact. Snow again made careful notes on the condition of the eyes and the pupils, although his conclusions were more vague than most of his utterances.

Snow recognised various forms of death as resulting from chloroform inhalation and reproduced them in the lower animals. Thus (1) he induced death by *gradual* absorption of a quantity of chloroform (36 minims) given in a low percentage vapour (below 6 per cent.) sufficient to paralyse the nervous control mechanism of respiration, while (2) he found that if a higher percentage of vapour (8 to 10 per cent) were suddenly caused to enter the pulmonary circulation this excessive strength would upon entering the coronary vessels paralyse the heart itself before the nerve centres were subjected to the influence of the anæsthetic. Under such circumstances very few respirations were sufficient to cause enough vapour to enter the pulmonary air cells for the lethal 36 minims to be pumped into the circulation. Working upon cats and rabbits with low percentage vapours (3 to 6 per cent.) the respiration failed before the circulation; with vapours of 8 to 10 per cent. a simultaneous cessation occurred of respiration and circulation or the heart stopped before the breathing. In the first class of cases the animals were restored by access to air; in the last artificial respiration failed to resuscitate them.[14]

Snow proved that this heart failure took place wholly without impediment to the pulmonary circulation and was associated with a dilatation of the heart which at a certain point became paralytic. In his experiment he showed that when an excessively high percentage vapour (10 per cent.) is inhaled from the first death from cardiac paralysis may and does ensue before anæsthesia is ever attained. This, he says, is an example of many cases of deaths of human beings. Again, death may occur after inhalation has been left off, and this point he again illustrates by experiments.

Perhaps no feature of Snow's work is more remarkable than his criticism of the fatalities, the reports of which he collected. He brought them into line with his experiments and showed with consummate mastery of his subject the factors which in each case determined the fatal result. In 1848 Sibson did much valuable clinical work upon the subject of chloroform and performed a number of experiments upon the lower animals which throw much light upon the mechanism of death under chloroform.[15] Sibson's views were in accord with those of Snow: Sibson devised the facepiece which Snow adopted for his chloroform inhaler and which allowed free respiration through its valves and was a pronounced improvement of many of the apparatus then in use.[16]

The review of the cases of death led Snow, as it had led Sibson,[17] to believe that most if not all such fatalities were due to paralysis of the heart. In death from asphyxia the heart beats for from one to three minutes after the breathing has come to a standstill, and as he pertinently remarked: "It is extremely improbable that anyone would go on giving the vapour after the breathing became stertorous and laboured."[18] In 1855 a Chloroform Commission was instituted in Paris and published[19] a conclusion that in the lower animals the heart always goes on beating after respiratory paralysis. Thus they agreed with the experiments undertaken by Mr. Thomas Wakley, of THE LANCET, who upheld that cardiac failure under chloroform was not met with in the lower animals. Snow, however, had encountered it and he impugned the results above referred to. He based his opposition firstly upon his experiments on the lower animals which had convinced him that all deaths due to chloroform inhaled when the vapour was over 5 per cent. resulted from circulatory failure. However you might alter the conditions, provided the strength of the chloroform vapour remained constant, syncope occurred without interference with respiration or signs of asphyxial complications, death even occurring before insensibility had shown signs of appearing. When, however, a low percentage vapour was employed—that is, one below 5 per cent.—the various degrees of narcosis always and regularly showed themselves. He asserted that only when chloroform gradually accumulated in the blood to such an extent that the total quantity reached more than his lethal dose of 36 minims, death followed from what he called narcosis of the brain with failure of respiration through poisoning of the medullary centres. Furthermore, he analysed all the cases of death of which particulars had been accessible, and in his review of them he showed conclusively that with four exceptions they were deaths from cardiac failure and not from respiratory paresis. In other words, the symptoms were those of circulatory failure and not of pulmonary engorgement. To put the whole matter briefly, Snow's position was this: if you introduced a certain dose into the organism uniformly diffusing it throughout the circulation you produced given phenomena which eventually poisoned the various vital controlling systems of the animal, respiration and then circulation being the last to go. If, on the other hand, you introduced a large dose into the lungs in such a way that it was absorbed and passed directly to the heart, that dose conveyed through the coronary arteries paralysed the heart and so the animal died at once. In the first case—the asphyxial death—the employment of forced respiration may eliminate the poison; in the second the tissues of the heart actually being killed no restorative measures are from the first destined to be of the slightest good.

Patrick Black, who wrote a pamphet in 1855 and who was, I believe, one of the first anæsthetists appointed to a London hospital, contended that chloroform did not kill even when presented in overwhelming doses, for he said "we have only to attend to the breathing, we may disregard all considerations affecting the relative proportion of chloroform and of air which is breathed ..... if the patient breathes easily he is in safety whatever be the amount of chloroform which is passing in his lungs." His argument was that the patient was strangled by the strength of the vapour which prevented his inhaling and prevented his breathing. This position Snow at once showed was untenable because the actual experiment revealed that animals could breathe a high percentage of chloroform and that it was impossible for an individual to hold his breath even against an irritant, and further it was inconceivable that such a mistake could be made as to imagine a patient voluntarily holding his breath against an unpleasant vapour when he was dying from the effect of that vapour. Black, who was assistant physician to St. Bartholomew's Hospital, was a distinguished man who upon his appointment to the full office of physician appears to have left the turmoils of anæsthetic warfare. Unfortunately a death occurred in his practice in which it was shown that the source of danger

[12] Gazette Medicale, Jan. 15th, 1848.
[13] Snow: Anæsthesia, Exp. 28, p. 117.
[14] Medical Gazette, vol. xlii., p. 109.

[16] I learn from Mr. Bertram Richardson that his father, Sir B. W. Richardson, designed the first facepiece and Sibson modified it.
[17] London Medical Gazette, 1848.
[18] Anæsthetics, p 90.
[19] See Report of the Society of Emulation, l'Union Medicale, 1855, No. 13.

was that which he pointed out could not have arisen and so the *argumentum ad hominem* applied. Nor did Snow admit the various theories which were invented, such as special idiosyncrasy, theories of the fear of the surgeon's knife, and so on which were brought forward to explain chloroform fatalities. It will be impossible in the time at my disposal to do justice to the amazing amount of experimental and careful clinical work which was accomplished by Snow; perhaps the most pronounced compliment that can be paid to his memory lies in the fact that all the modern researches which have been made and which have stood the test of criticism have been based upon, if not forestalled by, Snow's earlier labours. To him was the initiation though to others the full fruition of his researches and conclusions.

Among the early workers in the field of anæsthetics was Thomas Nunneley, of Leeds, who experimented with benzine, carbon disulphide, carbonic acid gas, carbonic oxide, but whose name is perhaps best known in connexion with his advocacy of bromide of ethyl as an anæsthetic. He also tried olefiant gas (ethene), ethyl chloride, turpentine and contributed to the literature of the subject of anæsthesia. In June, 1864, a committee composed of T. B. Curling, Thomas Bryant, Samuel Cartwright, Arthur Farre, George G. Gascoyen, George Harley, Prescott Hewett, F. W. Mackenzie, William Marcet, Charles H. Moore, James Paget, William O. Priestley, Richard Quain, Francis Sibson, R. Dundas Thomson, Charles West, Septimus Sibley, George W. Callender, and John Birkett was appointed by the Royal Medical and Chirurgical Society to inquire into "the uses and physiological therapeutical and toxical effects of chloroform as well as into the best mode of administering it and of obviating any ill consequences resulting from its administration." Experiments were made upon the lower animals and different percentages of vapour employed. The conclusions arrived at were that for moderate and small doses little difference was observed whether the chloroform was inhaled above or below the glottis.

Under such circumstances respiration stopped first, although not always, and though in the majority of cases the pulse ceased before the respiration the actual heart beat could be felt for some time longer. The importance of this lies in the fact that they appear to have recognised that the heart becomes enfeebled before the circulation comes to a standstill; in other words, it is a poisoning of the heart muscle as opposed to the poisoning of the medullary centre. This committee worked with a hæmo-dynamometer, but the readings were taken by the eye and not by the sensitised plate. They further noticed that incoördinate movements of the heart occurred even after effective contraction had ceased, a condition which later MacWilliam noticed and explained. However, in one important particular the Committee took a line at variance with Snow's findings and equally at variance with more recent but more exact research. They thought that the effect upon the heart of a strong vapour of chloroform was not materially different from that produced by a milder form of the agent. But what appeared to have been their meaning was that the accumulation of a small dose tells upon the myocardium eventually in quite as deletrious a manner as a large dose taken by a few deep inspirations, and this no doubt is true when working in the lower ranges of chloroform vapour. They arrived at the result which I believe has been uniformly found by all observers who have investigated the effect of chloroform upon the respiration, that when inhaled sufficiently long and insufficiently diluted the respiration failed and was finally extinguished. That is always assuming that the dilution is sufficient not to tell initially upon the heart. Their conclusions as to the physiological effects of chloroform are summarised as follows: "The sequence of the phenomena produced by chloroform inhalation in animals is similar to that observed in man; and if the same percentage of the agent be administered the results produced are nearly uniform. Chloroform at first increases the force of the heart's action; this effect is slight and transient. When complete anæsthesia is produced by chloroform the heart in all cases acts with less than its natural force. The strongest doses of chloroform vapour, when admitted freely into the lungs, destroy animal life by arresting the action of the heart. By moderate doses of chloroform the heart's action is much weakened for some time before death ensues; respiration generally, but not invariably, ceases before the action of the heart and death is due both to the failure of the heart's action and to that of the respiratory function. The danger attending the use of chloroform increases with the degree of stupor it induces. Apparent irregularities in the action of chloroform mainly depend on the varying strength of the vapours employed, on the quality of the chloroform, and on the constitution of the patient." The report further contained the account of some experiments as to the best means of resuscitation as well as statistics and an account of chloroform in midwifery practice. While they regarded chloroform as a dangerous and somewhat unmanageable agent, they placed it before ether, since ether as then given was a slow and uncertain anæsthetic, and they adopted as a middle course the well-known A.C.E. mixture, which they regarded with great favour—a mixture which was suggested by the late Dr. Harley.[20] With regard to ether, although they thought that its action was similar to that of chloroform they asserted that they never succeeded in producing failure of circulation by its use except in cases where respiration had been brought to a standstill. They appear to have overlooked that the methods employed not only lead to the inhalation of ether, but also cut off an adequate supply of air. Snow, who had conducted similar experiments, had found that the lower animals would inhale almost pure ether vapour without syncope occurring, and that even if respiration failed through narcotisation of the medullary centre the forced entrance of a breath or two at once restored the vital processes in every case. It is a curious reflection that even as late as the date of this report it was necessary to gravely consider whether or not chloroform interfered with the healing of amputation wounds and increased or lessened the after-mortality of operations. The teaching of Arnott and other distinguished surgeons had been strongly adverse to the use of anæsthetics and that teaching still lingered. The report, I need hardly say, went dead against any theory that chloroform interfered with the after success of surgical procedure. Associated with this report was the name of the late Mr. Joseph Thomas Clover, who in 1848 had been appointed resident medical officer at University College Hospital. His work, good as it was, was rather upon the side of practice than of experimentation. Perhaps no man has done more to remove the slur passed upon ether by the report which we have just considered. If ether was a slow and uncertain drug before Mr. Clover's ingenious brain devised his inhalers and perfected his methods no such stigma could be attached to it afterwards. These drawbacks were wholly removed by Clover. Snow had given up ether for chloroform, but gave up chloroform for amylene, and after having the misfortune of two deaths under that reagent he again reverted to chloroform. Benjamin Ward Richardson, then a young man full of enthusiasm and eager to follow in the lines Snow had laid down, was working upon the subject of anæsthesia, and it was he who pointed out to Snow that amylene was a most dangerous form of narcotic. "I ventured," said Richardson, "to show him separation of amylene in the blood, a separation which looked like the formation of minute plugs. He fully realised the danger."[21] A glance at the *Æsclepiad* for July, 1884, will serve to show the amount of work which Richardson did in the field of general anæsthetics. His overmastering idea was that general anæsthetics were doomed sooner or later to give way to a more perfected form of local anæsthesia, and although he experimented and published the results of his experiments with chloroform, ether, bromide of ethyl, amyl chloride, amyl hydride, butyl chloride, carbon bisulphide, and other agents, his most known work is rather in the field of local anæsthesia and to need not be dealt with in the present connexion.

In 1866 Robert Ellis suggested his plan of giving a mixture of the vapours of alcohol, chloroform, and ether. In 1879[22] were published the first instalments of the report of a committee of the British Medical Association dealing with the action of anæsthetics. This committee consisted of Joseph Coates, William Ramsay, and John McKendrick, and thus comprised a pathologist, a chemist, and a physiologist, and is commonly spoken of as the Glasgow Committee. They dealt with a large number of substances, they were able to employ more exact methods and more reliable physiological instruments, and I believe for the first time adopted the graphic method of recording their results. It may be said in passing that although to describe their experiments in detail is beyond the scope of our present purpose, yet they were most carefully performed and as far as they went were accurate. They may be

[20] Proceedings of the Royal Society, p. 159, 1864.
[21] Vita Medica, p. 284.
[22] Brit. Med. Jour., 1879, vol. i., pp. 1, 108, and 921.

summarised in the following way. The blood-pressure under chloroform is reduced while unaffected under ether. "Chloroform has sometimes an unexpected and capricious effect on the heart's action, the pressure being reduced with great rapidity almost to *nil*, whilst the pulsations are greatly retarded or even stopped. The occurrence of these sudden and unlooked-for effects on the heart's action seems to be a source of serious danger all the more that in the two instances they occurred more than a minute after the chloroform had ceased to be administered and after the recovery of blood-pressure." I have quoted the passage because it seems to me to be the least satisfactory portion of the report. It is inconceivable that any physiological action can be termed capricious or at least can be accurately termed capricious. Chloroform they found killed dogs either by stopping respiration or circulation, but as far as I can gather the effect to which they refer is upon the medullary centres rather than to the direct action upon the heart muscle, and they seem to assume that the individual peculiarity of the animal is responsible for cardiac failure occurring in some instances and respiratory in others. A great deal of their report is occupied with the consideration of ethidene dichloride, a drug which Snow had introduced and of which he thought highly. It cannot be said that the report of the Glasgow Committee carried the work of Snow much further. It would appear that they lost sight of to a great extent the all-important question of dosage and did not bring out with sufficient prominence the different physiological consequences of vapours of various strengths. However, the work was to be carried forward by others with equal enthusiasm.

The final epoch of the scientific work of the fifty years of chloroform now completed is grouped about the Hyderabad Commissions and much of the splendid research owes its origin directly both to the munificence of the Nizam of Hyderabad and the enthusiasm of Surgeon-Lieutenant-Colonel Lawrie, while owing indirectly to the same source very much of the later and valuable work of the past few years has been called forth by the Commissions. MacWilliam's research on Paralytic Distension of the Heart,[23] Gaskell and Shore's report on the Physiological Action of Chloroform (1893), Hare and Thornton's Study of the Influence of Chloroform upon the Respiration and Circulation, and Leonard Hill's research upon the Influence of the Force of Gravity on the Circulation of the Blood[24] and the same worker's brilliant address delivered before this society early in the present year[25] and Waller's ingenious investigation into the Action of Narcotic Vapours on Nerve Tissue have advanced our knowledge of the physiological action of chloroform by leaps and bounds. The excellent clinical work which had been done and recorded by Snow, Sibson, Nunneley, Richardson, Clover, Sansom, and more recently by the British Medical Association and THE LANCET Commissions had enabled us to guess at the behaviour of this potent narcotic while the research work, a rapid glance at which has been attempted in the earlier portion of this address, confirmed the conclusions of clinicians, yet as these authorities differed it was difficult to reconcile the results. With the more recent experimental work, although a certain variation in conclusions exists the actual facts are all automatically recorded and are open books for all to read and form an opinion upon. It is impossible to attempt a detailed account of the methods adopted in the research undertaken at Hyderabad. Suffice it to say the animals subjected to chloroform were placed in as nearly a parity of circumstances with human patients as possible. Briefly, the position assumed by the Commission was—(1) that chloroform always produced a fall of blood-pressure, and (2) that under sufficiently diluted vapour the respiration, the action of the heart, and the rhythm and force of the pulse remain unaltered. When variations in the gradual fall of blood-pressure, the performance of respiration, and in the action of the heart take place they are due to direct overdosing or to overdosing through abnormal or irregular respiration. While overdosage cannot occur it was contended that if certain simple rules were followed and the state of respiration be accepted as the one and only criterion of the degree of chloroformisation, it was advanced that when an overdose was intentionally given the animal died but never through any circulatory disaster. In all their experiments in which the animals died the respiration failed before the heart. They were led to believe that surgical shock was completely abrogated by the use of chloroform, nor did they admit that accumulation of chloroform ever took place in the blood so long as the respiration remained free. Lastly, they denied that the muscular tissues were directly affected by chloroform but only through gradual and progressive narcotisation of the nervous centres.

The theory of the action of chloroform thus built up becomes attractive and simple. Give chloroform highly diluted with air it will gradually lessen blood-pressure so that the circulatory system becomes an automatic check system, lessening and lessening the rate at which the narcotic is carried to the central nervous system and so safeguarding the organism from harmful over-narcotisation. As the nervous centres pass under the influence of the chloroform the various phenomena of paralysis occur in the order described by Majendie, Flourens, and Longet and the medullary centre presiding over respiration at length is put to sleep. When breathing stops the blood fails to circulate through the lungs, the heart becomes affected, its intrinsic vessels empty, and as it grows more and more anæmic its action grows more and more feeble and at last fails. If, however, the necessary condition of free respiration is non-existent this procession of events does not take place. Permit anything to occur which causes asphyxial phenomena, says the Commission, and you at once bring about vagal action. The heart stops, the blood-pressure lowers. This state of affairs is, however, a blessing in disguise. It is, in fact, a series of protective reflexes which prevents the excessive dose of chloroform entering the nervous centres; when it passes off which it will always do, this inhibition will be found to have saved the patient's life.

The theory thus perhaps somewhat baldly expressed has been severely criticised, has been tried in the balance by some and found wanting. No doubt if the Commission's premises are admitted their conclusions remain sound enough. It is upon the question of fact and not of theory that issue has been joined. Starting with the blood-pressure, all admit that it is lowered by chloroform. The Commission believe that this is due not to heart failure or to vaso-motor paralysis, and is of its nature pre-eminently protective. The lowering of blood-pressure, if not due to vagal stimulation or dulling of the medullary centres, must arise from vaso-motor paralysis leading to emptying of the arteries into the veins—"the loss of arterial tone" of Snow—or to failure of the heart itself. Recent observers have asserted that one or other or even both these are contributory causes which bring about the result and base their assertions upon experimental evidence. Chloroform has certainly been shown to depress the vitality of protoplasm in weak vapour while a strong vapour will destroy it totally. The blood corpuscles and the muscular tissue both striated and non-striated are also affected by chloroform. The work of Lorraine Smith seems to lend colour to the suggestion that the corpuscles are so influenced as to lessen their power of conveying oxygen to the tissues. Ringer and others have shown that the frog's heart removed from all nervous influence is gradually paralysed by very weak chloroform solution perfused through it and that eventually it loses all contractility. MacWilliam in a most striking series of experiments has striven to prove that, quite independently of all complicating circumstances such as asphyxia, partial or complete, all strengths of chloroform act directly upon the heart muscle causing paralytic dilatation. At a certain point this dilatation becomes incapable of correction, the heart then no longer contracts, and the circulation fails. This cardiac dilatation further occurs independently of vaso-motor action and determines a gradual failure in the force of the heart beat from quite the commencement of the inhalation. This must lead to impoverished blood-supply not only to the heart muscle itself, but to the various nerve centres concerned in the mechanisms of life. It must be remembered that section of the vagi makes no difference to this dilatation, nor can the old theory of pulmonary engorgement due to vaso-constriction explain the condition. Professor Dastre states, but without experimental evidence, in his work on Anæsthetics that a constriction of the pulmonary veins occurs when chloroform is inhaled leading to distension of the right heart. Were such a theory even proved it would fall short of explaining the phenomena, as all the cavities of both sides of the heart are dilated under chloroform and not only those of the right side. MacWilliam found, as Snow had previously pointed out, that the relation of the time occupied in inhaling any given amount of chloroform is one

[23] Ibid., 1890.

[24] Journal of Physiology, vol. xviii., p. 15 (1895), and with Barnard, vol. xxi., p. 323.

[25] Brit. Med. Jour., 1897, vol. i., p. 967.

of great moment. The even distribution of a considerable quantity of chloroform in the blood is far less dangerous than a much smaller dose suddenly introduced. His experiments show most conclusively the danger arising from irregular breathing, which means an unequal intake of the vapour. In natural respiration about 20 cubic inches might be inhaled and during a very deep breath 100 cubic inches, so that a dilution adequate for natural breathing would be about five times too potent for the deeper form of respiration. Nor is this a matter of slight importance, for MacWilliam's experiments proved how small a quantity of chloroform would prove a lethal dose if rapidly taken. A similar unequal rhythm of respiration was also found to occur, thus adding a further liability to the intake of an overdose.

The most original research of Gaskell and Shore, who pursued another method, that of cross circulation, brings still further evidence in the same direction. They were able to show that so far from the lowering of blood-pressure being due to the action of chloroform upon the vaso-motor centre it arose entirely from the weakening effect which the chloroform exerted upon the heart muscle. The vaso-motor centre was always in their experiments stimulated by chloroform to produce vaso-constriction with a consequent increase in blood-pressure. Again, although the research of Hare and Thornton [28] supports the findings of preceding workers in some respects it adopts a middle course in the main questions at issue. They think their experiments prove that in the lower animals respiratory failure is always the cause of death when the heart is sound. They, however, found "injection into the jugular veins of more than 2 to 4 c.cm. of chloroform caused arrest of inspiration rapidly followed by cardiac arrest, which was not secondary to the respiratory failure but to a primary action of chloroform upon the heart muscle." But they find there is always a fall of blood-pressure under chloroform, which they regard as being as great a source of danger as is respiratory narcosis. There is, they contend, always a distinct depression of the cardiac muscle with dilatation of the organ such as MacWilliam described. And although they consider this depression is not sufficient in itself to cause death, yet they add: "We believe that gradual asphyxia with the direct depression of the circulation may do much towards producing a fatal result, for vaso-motor integrity is always as necessary to life as an intact cardiac mechanism." Although Dr. Lauder Brunton, it may be presumed, holds in the main the views of the Hyderabad Report, which he signed, yet his more recent contributions to the discussion appear to show that he with Hare and Thornton considers that when any asphyxial phenomena are developed such as would ensue upon weakening of the respiratory centre the animal may die from circulatory failure before true respiratory narcosis supervenes. The weak point in this position is that while everyone from Snow downward has conceded the necessity for free dilution of chloroform vapour and the avoidance of any asphyxial phenomena the crux has always been how to avoid the vascular depression. The Hyderabad Commission frankly accepts the position by denying that vascular depression ever entails danger; but Hare and Thornton, Gaskell and Shore, and all recent workers not only hold the opposite view, but actually point to the Hyderabad tracings in support of their assertions. It is the clinician, who is not always a *persona grata* to the physiologist, who now steps in and assures us that it is practically impossible to say who has a healthy heart or shall we say who has a resistive heart. Abuse of living, hard living, scanty diet, terror, wasting disease, are factors in the problem which face the anæsthetist, but, like Gallio, the physiologist cares for none of these things. Hare and Thornton in their report say: "The variation in the action of a drug on a diseased individual from its effect on the normal one is notorious, and we have no right to dogmatically assert that there is no danger of circulatory depression in man even if we found no evidence of failure in dogs, because there may be many idiosyncrasies or variations, through disease in the human being which may completely reverse the results of experiments on healthy animals." They find from a long series of experiments that "gradual cardiac failure never occurs without producing respiratory changes from the very first." But of course all who have experimented upon the lower animals and have given chloroform to the higher readily admit this. It is not the gradual but the rapid cardiac failure which is to be feared. Leonard Hill,[27] however, has been led to modify the view that respiration fails initially while circulation is subsequently and consequently paralysed in chloroform death. His experiments go to show that when chloroform is inhaled the arterial pressure falls rapidly and as it touches a certain point near the zero line respiration ceases. On removing the chloroform the arterial pressure slowly rises from the excitation of the asphyxial blood and respiration starts again. It is the fall of blood-pressure due to circulatory depression which leads to respiratory failure, since the medullary centres no longer supplied with blood cease to perform their work and breathing ceases. In this view artificial respiration, our sheet-anchor in chloroform emergencies, is valuable not so much by virtue of its power to aerate the lungs, but because it pumps the blood from the lungs into the left heart and so into the coronary vessels. Hill concludes that spinal bulb anæmia from lowered arterial pressure is the cause of respiratory failure as is shown by the fact that raising the arterial pressure always leads to return of respiration. He makes this important point: "The depth of anæsthesia depends as does the paralysis of the respiratory centre on the primary fall of the arterial tension."

"There are two forms of chloroform syncope: (*a*) During primary anæsthetisation the patient struggles, holds his breath, raises the intrathoracic pressure congests his venous system, lowers his arterial tension, and finally takes deep inspirations and surcharges his lungs with chloroform. In the first stage the heart becomes impoverished, in the second stage it is suddenly filled with blood. This is drawn from the lungs and is full of chloroform. The chloroform passes into the coronary arteries and the heart is thrown into paralytic dilatation. Respiration and the pulse either cease simultaneously or the pulse before respiration. (*b*) During prolonged anæsthetisation this arises from gradually giving chloroform to too great an extent. The arterial pressure falls lower and lower, and secondarily the respiration ceases because of the anæmia of the spinal bulb. The heart is not in this case paralysed by chloroform because the drug is taken in gradually by the shallow respirations and distributed slowly by the feeble circulation." Waller has further shown in a series of very beautiful experiments, many of which I have had the advantage of seeing, that chloroform acts powerfully upon nervous tissue. It not only reveals a strength of action seven times that of ether, but very rapidly destroys the irritability of the structure. It is interesting to see from these experiments that chloroform stands forth declared the most potent and therefore most lethal of anæsthetics. As Simpson had almost prophetically said in 1847 chloroform combined within itself almost infinite powers for good and evil. All the work of fifty years has but taught us that in spite of the advertisements of instrument makers and the assured utterances of doctrinaires chloroform is in all hands a dangerous anæsthetic. The teaching of fifty years, the teaching, I would say, rather of Snow than of Syme, still remains unshaken. To give chloroform safely we have to first dilute our vapour and then observe that even the diluted vapour is not inhaled too rapidly. Lawrie has said: "The Hyderabad Commission's work proves that, while Syme's principles are right, there is no such thing as a safe method of chloroform administration. It is no longer a question of the superiority of the London method or of the Edinburgh method; absolute safety can be obtained neither by watching the respiration nor the pulse for signs of danger, which are in either case proof of improper administration or of overdosing. Moreover, overdosing may take place whether the anæsthetic is given on lint or on a towel or on a cap such as we use, or with Junker's or Skinner's or any other form of apparatus. The all-important point is that the breathing shall never be interfered with in any way. Safety under chloroform can unquestionably be ensured, but it can only be so by attending to regular natural breathing; and whatever method is employed no one can deny that it is the bounden duty of the chloroformist to maintain natural breathing throughout the whole period of administration. To maintain natural breathing requires careful training and considerable experience; but if these conditions be fulfilled it is impossible to produce anything with chloroform but anæsthesia, and the Hyderabad Commission has shown that anæsthesia alone is

[28] A Study of the Influence of Chloroform upon the Respiration and Circulation, by H. A. Hare, M.D., and E. O. Thornton, M.D., being a report to Surgeon-Lieutenant-Colonel Lawrie and the Government of H.H. the Nizam of Hyderabad. Detroit, Mich: G. S. Davis. 1893.

[27] Chloroform Syncope: Brit. Med. Jour., April 17th, 1897.

entirely free from risk,"—and his utterance is in the main correct. If it were possible to ensure this natural breathing the safety of chloroform would indeed be assured, but as MacWilliam, Gaskell, and Hill have now proved a fall of blood-pressure may jeopardise the patient and bring about the respiratory failure which every anæsthetist strives to avoid. I am fully aware that very many important researches, such as those of Bernard, Best, Anstey, and the names of many workers have found no place in this address. My excuse must be that the literature of chloroform has become so enormous within the semi-centenary now completed that it is impossible even to catalogue them in name much less to describe in detail the works themselves or the results arrived at. I have attempted to group our thoughts around the most striking figures—the men of the hour which these fifty years have brought forth. It has been my aim to deal with the strictly scientific rather than the clinical side of the question and to place before you the physiology rather than the practice of giving chloroform.

What, then, ladies and gentlemen, have we to show for these fifty years of work? Are deaths less frequent from chloroform? Do we understand its physiological action better? Are we mere blind leaders of the blind working empirically with a drug of which we know little, inhaled into and acting upon the organism in a way of which we know less? I venture to say the answers to all such questions are at least re-assuring. Unhappily we cannot say the mortality as a whole is less. Many circumstances account for this. In the first place a regrettable familiarity with the stoppered bottle and the always accessible towel or handkerchief has relaxed the sense of responsibility which once the giving of chloroform entailed. It has been wittily said that even the youngest of us make mistakes and certainly very many fatalities under chloroform would be prevented if only experienced persons were called upon to use chloroform to produce surgical anæsthesia. Again, the methods in vogue are usually faulty. The accomplished chloroformist will use the rudest means of bringing about chloroform sleep with impunity, but to leave the dose of anæsthetic and the degree of dilution to the judgement of the inexperienced house surgeon or dresser is to court disaster. No doubt the teaching of Syme and the practice of Lawrie are absolutely sound—their results prove it; but so did the results of Snow support his teaching that the sitting posture was as safe for chloroform inhalation as the recumbent; so did the results of Clover, who at one time gave chloroform from lint and covered the patient's head and shoulders with a towel, a procedure which Snow did not hesitate to condemn. But all these methods depend upon the individual who pursues them. To the average equestrian the performances of the circus rider are feats of danger and bristle with endless chances of accident and death. So is it with chloroform. Unless I have failed utterly in my endeavour to place before you the light and leading of the past fifty years you have realised that chloroform has been proved beyond dispute, alike by its friends and its foes, to be a most powerful and therefore most perilous drug. Therefore, unless you can make all chloroformists as expert and as conscientious as Simpson, Snow, Syme, Clover, and Lawrie, you must either restrict the use of the drug to those who at least have such responsibility as engenders care or supply better methods than those which leave so much to the personal intelligence of the chloroformist.

Perhaps the strongest feeling caused by the annals of these fifty years are those of gratitude to the great men who introduced chloroform and of gratitude to those whose patient toil and untiring energy have taught us the physiology of the action of chloroform on the organism. Knowledge casteth out fear. The empiric trusts to rule of thumb, scorns to learn the possible results of his actions, and possesses a courage born of ignorance. To the man of science—and I venture to say that no man should more emphatically make himself a man of science than he who undertakes to administer anæsthetics—knowledge means the power to avoid recognised dangers, to guard against their coming and be ready to counteract them when they arise and to guide his patient through safe paths to anæsthesia. He should be fearless because forewarned and only fearful lest through carelessness or loss of that professional conscience—his sense of responsibility—he sins against knowledge, placing a slavish adhesion to precedent before the all-important necessity of studying each case as it comes and before adapting his measures to the ever-varying conditions of that ever changing problem—the human body.

Supplementary Croonian Lecture

ON

POINTS CONNECTED WITH THE PATHOLOGY AND TREATMENT OF DIABETES.

Delivered before the Royal College of Physicians of London on Nov. 11th, 1897,

BY F. W. PAVY, M.D. LOND., LL.D., F.R.S.,
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(*Concluded from p. 1301.*)

WHATEVER may be the means by which it is effected it may be regarded as certain that to keep the sugar proceeding from the food out of the urine it must be kept out of the general circulation. The power by which this is accomplished falls within what we understand to be meant by the term assimilative power and it is through this power being at fault that in diabetes sugar gets into the urine from the food. In proportion as the power in question is diminished so is there a diminution in the amount of carbohydrate that can be taken without influencing the urine. The position of things may be exemplified by a vertical column representative of the power under consideration with the maximum degree, or that belonging to health, standing at the top and successive stages of decrease, corresponding with what may be found to exist in different cases of diabetes, following on below until we arrive at the bottom where the power is *nil*. The maximum power is such as to be sufficient for providing for the disposal of the carbohydrate that is taken within ordinary limits, and thus it happens that under these circumstances no influence is exerted upon the urine. If carbohydrate, however, should be taken to an undue extent, and especially if introduced into the stomach in a soluble form and at a period of fasting, the tax upon the assimilative power surpasses the capacity to meet it, and as a result, notwithstanding we are in the presence of a healthy system, a portion escapes being disposed of and is permitted to reach the general circulation as sugar and in this state to find its way into the urine. This may be looked upon as the explanation of the saccharine urine which it is known can be induced in both man and the lower animals by excessive ingestion of carbohydrate.

With rather less assimilative power existing than is normal a given amount of carbohydrate that can be taken by a healthy person without producing any noticeable effect gives rise to glycosuria. Cases of this nature are not unfrequently met with in practice and prove perplexing to the medical man and to the patient. By one practitioner the patient is told that there is sugar in his urine and for a while he may be inspired with gloomy forebodings. He possibly later seeks the opinion of another practitioner, who pronounces his urine to be perfectly right, and by this he is consoled till it arrives that he is afterwards told again that there is sugar in it. This apparently puzzling state is entirely due to the carbohydrate that may happen to have been ingested just previously to the urine being examined. When in excess of a certain limit sugar is voided; when, on the other hand, below it no sugar is found, the assimilative work to be performed being within the capacity existing for performing it. Like to what has been said with regard to the healthy person, saccharine and non-saccharine urine follow in response to the particular amount of carbohydrate ingested. The only difference between the two cases is that an amount of carbohydrate that suffices to lead to the production of saccharine urine in the glycosuric does not suffice for doing so in the healthy person. It is to be remarked that the effect is noticeable within two or three hours after the food has been taken. Before the meal there may be no sugar in the urine and a short time afterwards a more or less notable amount may be discoverable. These are the cases that are frequently referred to as cases of intermittent diabetes. The intermittent character noticeable is due to variations that may happen to occur in connexion with the food.

So it runs on. Different grades of power are met with in different cases and it is found that an amount of carbohydrate that one glycosuric may be able to take without its

leading to the passage of sugar suffices to determine its escape in another. The person has his fixed limit of power just as we as healthy subjects have, but the limit of power stands lower and is of varying degree in different cases. In each instance, as long as the carbohydrate taken is within the capacity existing of assimilating or properly disposing of it, the urine remains uninfluenced; whilst when the capacity has been exceeded sugar becomes discoverable, the quantity standing in relation to the extent to which the capacity has been surpassed. A case at a given time may be advancing in the direction of loss or in the direction of gain of power, but taken at other times the steadiness that is noticeable from day to day, week to week, month to month, or even year to year, is most striking. The patient has his fixed point of assimilative power. In addition to the restricted diet for the diabetic he may be able to take a certain weighed quantity of ordinary wheaten bread without sugar appearing in the urine. In other cases the quantity that can thus be taken may be larger and larger. The limit belonging to the case is ascertainable by observation and subsequently the state of the urine will depend upon whether carbohydrate is taken to a greater or to a less extent than the equivalent of that contained in the specific quantity of bread found to be permissible. When the patient is living close up to his boundary line sugar is apt upon occasions to be met with. This, from the variation that is liable to occur in his daily food looked at in its entirety, is only what may be reasonably expected. When, however, thoroughly below his boundary line there is sufficient assimilative capacity to spare to cover any little variation and prevent the urine being influenced.

It is not for a moment to be understood that in the restricted diet there is a complete exclusion of carbohydrate matter. Even purely animal food contains a certain amount, and in the substitutes for bread variable quantities according to circumstances exist. All that can be accomplished is to carry the exclusion as far as is practically consistent with the provision of a supply of food that the patient can satisfactorily eat and subsist on. As the object of the restricted diet is to reduce the supply of carbohydrate matter so that if possible it may fall within the assimilative capacity existing, it is of paramount importance that we should be able to rely upon the articles that are sold to take the place of bread. Without security in this matter the dietetic treatment of diabetes may not merely prove fruitless but at the same time absolutely misleading to the medical practitioner. Unfortunately, either from ignorance or unscrupulousness, articles are put into the market for sale as appropriate food for the diabetic which are literally no more suitable for the purpose than the food they are designed to replace. Both medical man and patient require to be vigilantly on guard to escape from the infliction of grievous physical harm and subjection to vexatious disappointment. Even with foods of the better class character considerable variation exists in the produce (particularly the gluten flour and thence what is derived from it) of different makers, and want of success in treatment may result from the article employed not being of the degree of purity looked for. Fortunately the high-class makers of diabetic foods in this country are fully alive to the importance of conscientiously attending to the question of purity, and the more this is realised and acted up to the better the position in which the medical practitioner is placed. It must be acknowledged that the matter is not devoid of difficulty. Palatableness has to be looked to and ordinarily palatableness suffers at the expense of purity. The art called for is to produce food which is palatable and at the same time suitably constituted to meet the requirements of the complaint. The producer has at one and the same time to use his endeavours to please the patient and satisfy the physician, and amongst those who have exerted themselves in a right way to attain the object desired I consider Mr. Callard deserves to be mentioned.

The state of the urine constitutes a tell-tale in relation to the food that has been taken and errors in diet in whatsoever way occurring are unfailingly revealed. A reliable quantitative determination of the sugar is of course required for the purpose, and with a specimen of urine taken for examination from that passed on going to bed at night and another from that passed on rising in the morning, the one being under the influence of the food of the day and the other under that of fasting during the night, we obtain a disclosure, if there is any to be made, of the effect of what has been ingested. The night specimen is under the influence especially of the food taken in the latter part of the afternoon and the early part of the evening, and from this circumstance it is not unfrequently found to contain sugar whilst the morning specimen may be free. On the other hand, should food be taken shortly before bedtime—in other words, should the last meal be a supper at the end of the evening instead of a dinner at the early part of it—the position may be reversed through sufficient time not having elapsed for the night specimen to be influenced and the effect of the food being thrown instead on the morning specimen. Under such circumstances sugar may be found in marked amount in the morning urine and less or none in that passed at bedtime. So sensitive is the urine to the influence of food that in the case of a glycosuric requiring a strict observance of the restricted diet for maintaining the urine in a sugar-free state the starchy matter contained in a thin water biscuit may suffice to impart to it a distinctly saccharine character. Whatever the nature of the article containing the carbohydrate it equally tells upon the urine, but on account of the solubility of sugar in contra-distinction to starch articles containing the former produce a more speedy effect than those containing the latter. I need not dwell upon the delusion so extensively prevalent that toast from bread is allowable when bread itself is not, or that the starchy matter of the potato stands in a different position from that from other sources.

Removal of sugar from the urine by reducing the carbohydrate taken does not mean cure of the disease. What is wanted for cure is restoration of the assimilative power, and in proportion as this is brought about so can more and more carbohydrate be taken without leading to the passage of sugar. If, indeed, in a diabetic case the power should become fully restored the patient would be placed in a position to be able to take the ordinary diet without its influencing his urine, and he might then be truly told that he had shaken off his complaint.

But control of the elimination of sugar by diet is of paramount importance in promoting improvement, and may be looked upon as an indispensable measure of treatment. It is not the mere fact of the waste of food occurring with the discharge of sugar that constitutes the great source of trouble in diabetes. It is the state of system which stands as a preliminary factor to the elimination that occurs. The blood forms the connecting link between the urine and the food. The sugar present in the urine has previously passed to it through the blood, and in doing so has created in this fluid a deviation from the natural state which tells injuriously throughout the entire system. It is not natural for the blood of the general circulation to contain more than a certain small amount of sugar, an amount varying but little under healthy circumstances. With the presence of an increased quantity as a result of the faulty assimilation of the carbohydrates of the food it is thrown into an unnatural state and its constitution altered in such a way as to interfere with its fitness for ministering to the proper performance of the nutritive and various other processes of life. All the symptoms and results of the complaint depend upon the unnatural presence of sugar in the contents of the circulatory system, and on this condition being altered, as it is shown to be by the disappearance of sugar from the urine, the symptoms and ill-effects immediately subside. It may then be said that so long as this state can be maintained the patient has nothing to fear from diabetes. Diabetic coma is the condition most to be dreaded as an issue of the disease. With the sugar in an uncontrolled state the condition is liable at any time to supervene and speedily carry off the patient. If any other complaint of an acute nature, as influenza, pneumonia, &c., should set in, great danger is incurred of a fatal termination through the supervention of diabetic coma. A diabetic in the great majority of instances does not die in a direct manner from the superadded complaint, but from the development of diabetic coma. Not so, however, when the elimination of sugar is thoroughly under control. Such a patient is to all intents and purposes except in relation to food in the same position as an ordinary person. In all my experience I have never come across the supervention of diabetic coma in a case where the urine has previously been in a sugar-free state.

To control the escape of sugar by adaptation of the diet is only a rational procedure and cannot be otherwise than right. There is a diminished assimilative power existing, and to bring the conditions to a properly balanced state there should be a corresponding diminution in the class of food

calling for the exercise of the power. When the amount of carbohydrate matter of the food is shaped so as to be properly adapted to the power existing of disposing of it there is no disturbance of the required harmony between the two, and the system escapes being prejudicially influenced by the effect of the deficient power that has to be dealt with—escapes, in other words, being thrown into an unnatural state by the presence within it of sugar which ought not to be there. The passage of sugar that can be controlled by reduction of ingested carbohydrate means neither more nor less than the unnecessary infliction of harm, and the harm inflicted stands in proportion to the amount of sugar that is allowed to reach the system and thence to escape with the urine. The fact of voidance of sugar affords evidence that the system is already overburdened with carbohydrate and any addition will have the effect of increasing the abnormal condition existing. If the case is one in which the sugar in the urine is not susceptible of removal its reduction in quantity does good by establishing within the body a closer approach to the natural state.

As I have asserted, what is to be sought for by treatment is the restoration of assimilative power over the carbohydrates and this is often demonstrably attainable. Let me give an illustration of the kind of case I am not unfrequently meeting with in my experience. A patient, say, above middle age has become diabetic, but from some cause or other does not happen to fall under proper treatment till he has reached a very bad state. His symptoms have been persistently growing more and more marked, and at the time of falling under observation he may be suffering from great thirst, passing an enormous quantity of urine, and having become much reduced in weight and strength. We will suppose that he is placed on the restricted diet, which is loyally attended to, and that codeine, opium, or morphia is administered. Even within a few days a marked change is produced. The thirst and excess of urine subside and the patient picks up in weight and strength. The sugar falls and ultimately disappears. In some instances this happens with surprising rapidity, but in others it may not be till after the lapse of some days or even of a longer time than this, that the urine is found to have lost its saccharine character. The satisfactory progress continues. The patient feels as though he had shaken off his complaint and perhaps wonders why he should have to keep to his measures of treatment. Any relaxation in diet, however, would immediately lead to a return of sugar. The power of disposing of carbohydrate matter has not yet become restored. For a while the improvement is well maintained, the weight, which in the first place underwent increase, being afterwards kept up. Later, but when cannot be foretold, a change may set in which is not unlikely to excite gloomy forebodings by leading to the apprehension that a relapse has occurred. It may be at the end of some weeks, or more likely months, a decrease of weight may set in and the patient may feel weaker and be reminded of the state that existed before the treatment was commenced. If with this alteration the urine continues free from sugar it may be read off as a sure sign that a restoration of assimilative power has commenced to take place. A return to ordinary food would indubitably bring back the sugar. The improvement of power that has occurred is only likely to be slight and requires to be met by a correspondingly slight allowance of carbohydrate matter. It appears to me that bread is the article most missed from the ordinary dietary, and this therefore I am in the habit of suggesting for employment as a representative of carbohydrate food. I begin with 3 oz. per diem in portions of 1 oz. at each of the three principal meals. Under the circumstances depicted it may reasonably be expected that no sugar will be made to appear in the urine, and, such being the case, in the course of ten days or a fortnight a trial is made of 1½ oz. in place of 1 oz. three times daily. This also is ordinarily found to be tolerated, the indication of toleration being that the carbohydrate does not pass off as sugar. Interesting to note, with the administration of the bread the patient immediately begins to recover his lost weight and to feel himself again. Later another drop in weight may occur, and it is to be taken as an indication for a further increase of bread. In this way I frequently work up during a space of, it may be, two or three months to 7 oz. or 8 oz. of bread per diem. I sometimes find that the capacity exists for the quantity to be raised to 9 oz. or 10 oz., and I have known cases where I have been able to proceed as far as 12 oz., and upon rare occasions a greater latitude of diet than even this involves has been unattended with the passage of sugar. If sugar should reappear in the urine it must be looked upon as meaning that the mark has been overstepped and that a retrogression must be made to the quantity found to be tolerated.

Let us for a moment pause and give thought to what the return of the capacity of taking carbohydrate matter without its escaping as sugar implies. To begin with, for awhile there may be a passage of sugar with the limited supply of carbohydrate associated with the restricted diet. Then this sugar disappears, and, next, more and more carbohydrate can be taken without running off from the system as sugar with the urine. Surely this must indisputably mean that the system has regained a power that it had previously lost.

An important principle is involved in connexion with what I have just set forth, and all the facts stand in harmony with what may be rationally looked for. It is certainly a notable point that everything should work out as harmoniously as it does. The effect of carbohydrate food in health is diametrically opposed to its effect in diabetes. In health, as we well know, it contributes to the increase or to the maintenance of weight. In diabetes when sugar is being voided it does exactly the reverse. If it runs off as waste material with the urine it naturally cannot be expected to go towards maintaining or increasing weight. As a matter of fact it leads to decrease of weight through waste occurring and the wrong state of system induced by the abnormal presence of sugar that is in transit from the food to the urine. Who has not noticed the marked decline of weight that occurs in a diabetic before subjection to dietetic management and the rise that immediately follows its adoption? The circumstances in diabetes then are such as to lead to the supply of carbohydrate producing a loss, and restriction from it a gain of weight. The healthy person, on the other hand, gains weight upon its full supply and loses weight if the supply is restricted. Now in proportion as his assimilative power becomes raised so is the position of the diabetic brought into conformity with that of the healthy person and so is the necessity created for his being similarly dealt with. As long as carbohydrate food fails to be utilised its supply does harm. Directly the system regains the power of utilising it, it is found, as in the case of the healthy person, that it is wanted and that if it is not supplied the want is betokened by a decrease in weight and a decline of strength. The principle to put into force is to give it short of producing saccharine urine, and decreasing weight with sugar-free urine may be taken as meaning that the supply is not equal to what is permissible and moreover wanted.

In cases where the assimilative power is not recovered observation shows that the restricted diet is borne without the occurrence of loss of weight and it is permissible for me to state that the circumstance may be safely taken as a guide in practice. I know of patients who have gone on for years with the restricted diet with a thorough maintenance of weight. They are not the patients to bear the supply of bread. The system cannot want or be benefited by that which it has not the power of properly disposing of and allows to run off as waste material with the urine. It is only that which can be properly disposed of that can render service to the system.

The loss of weight attendant upon unneeded restriction from carbohydrate food may afford assistance from a diagnostic point of view. If at starting the case has not been properly diagnosed, and it should prove to be one where, from simply undue concentration of urine and the high specific gravity and the slight indication of reaction with the copper test often met with under the circumstances, an erroneous inference has been drawn and the patient has been unnecessarily put on the dietetic management for diabetes, a loss of weight, sometimes of a marked nature, will ensue. Equally also loss of weight will ensue if the case is one of mild glycosuria and it is treated as one of ordinary diabetes. Rightly appreciated the result noticeable will be suggestive that curtailment of the supply of carbohydrate matter is being carried to an uncalled-for extent.

From the remarks I have made it will be gleaned that food stands as the great factor in the treatment of diabetes. As I have stated the object really before us for attainment is restoration of assimilative power. My experience leads me in an explicit manner to say that I believe this is promoted by the medicinal employment of opium or its alkaloids, and I think the view accords with the result of the general experience of others. The older physicians, before the dietetic management of diabetes stood in the position it

now does, empirically arrived at the conclusion that an amelioration accrued from the administration of opium.

Although the great factor in relation to the amount of sugar eliminated, food is evidently not the only one. The pathological condition which stands at the foundation of the action constituting the immediate source of the elimination is presumably influenced by incidental circumstances. In many cases, it is true, it may be noticed that the assimilative power stands with remarkable constancy at a fixed point for a prolonged period, but in others evidence is presented pointing to the patient being liable to be influenced by collateral conditions, especially of a mental nature, having the effect of altering to a greater or less extent the amount of sugar eliminated upon a given quantity of carbohydrate when sugar is being passed, and of leading to a certain amount of elimination when the urine has previously been in a non-saccharine state.

The phenomena I have hitherto been speaking of belong to what is appropriately styled the alimentary form of diabetes, which I would certainly say from my own experience is far more common than the other, but at the same time is not the form that most frequently finds its way into the wards of the hospital. Besides the cases controllable by attention to food we meet with others in which no amount of dieting will remove the sugar from the urine. These present us with the classical type of the disease and may be grouped into what may be called the grave form of diabetes, a form belonging especially to the period of life below middle age. A superadded condition exists which leads to sugar being derived from the tissues as well as from the food. The glucoside constitution of the nitrogenous principles of the body supplies an intelligible source for sugar, all that is wanted being a pathologically developed ferment possessing the power of breaking them up with the liberation of their sugar molecule just as occurs with amygdalin in presence of emulsin.

Cases progress from the alimentary form into the grave form and it is upon the extent to which the progressive tendency exists that the issue depends. Amongst persons above the middle period of life the progressive tendency is usually susceptible of being held in check, and often, as I have shown, progress even in the opposite or right direction is to be brought about. I think it may be definitely said that allowing the complaint to run on in an uncontrolled state promotes the passage from the alimentary into the grave form, but undoubtedly there is nothing like the same proneness for the occurrence of the passage amongst elderly that there is amongst young people. It is indeed the strongly marked progressive tendency that gives the formidable nature to diabetes in young subjects. A striking analogy is presented to the progressive diseases of the nervous system; and (but this is a point that time precludes my entering into here) may we not have at the foundation of diabetes a wrong nerve condition implicating and operating through the vaso-motor system? In its early stage the complaint may be just as controllable in a young as in an elderly person, but as time goes on the difference becomes manifest and it is found in the former that through the advance that has insidiously taken place the measures that before produced a satisfactory state no longer succeed in doing so. The rate of progress may vary considerably. In some cases with an inherited history I have known it extend over many years.

And now, Mr. President and Gentlemen, let me in concluding this lecture express the hope that I have succeeded in clearly placing before you what is in my own mind as the outcome of the life-long attention I have given to the subject upon which I have addressed you. The views I have set forth have sprung entirely from experimental physiological work on the one hand, and from practical experience in connexion with diabetes on the other. With this foundation they harmonise with the assemblage of facts to be dealt with belonging alike to physiology and pathology, and at one and the same time they bring the whole matter into a state of great simplicity and supply a working basis upon which the treatment of diabetes may be rationally and reliably conducted. With the glycogenic doctrine the teachings of diabetes are absolutely irreconcilable, and it may, moreover, be said that modern research has removed the support upon which it was originally based. And yet the doctrine still lingers in the mind, influencing its conceptions and shaping its views, for persons seem unable to look at the points belonging to the subject otherwise than through the prepossessions that have been engendered thereby. The chapter, however, will have, sooner or later, not simply to be revised but completely rewritten; and the sooner this is done the better, I feel I am justified in saying, will it be for the right comprehension of diabetes by the medical profession.

HERNIA OF THE ABDOMINAL CICATRIX AND OPERATIONS FOR ITS CURE.[1]

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HERNIA of the cicatrix after abdominal section is unfortunately an accident of no great rarity. A mere digital protrusion may be kept back by pressure skilfully applied. If, however, it is suffered to attain a large size it may prove more troublesome than the disease for which the operation was performed. It may also become in itself a direct source of danger demanding surgical steps for its relief. The late Mr. Greig Smith, the loss of whom we all regret, clearly refers to the less advanced type of ventral hernia when he lays down his principles of treatment in his well-known work.[2] Indeed, it would at first seem as though he referred to primary ventral hernia independent of any surgical wound, but he distinctly states that "ventral hernia so-called is simply a stretching of scar-tissue which permits the abdominal contents to escape through the parietes and to bulge outwardly under the skin." Further,[3] in his paragraphs on hernia after operation, he distinctly refers back to the same passage. Hence he is clearly speaking of surgical ventral hernia. Mr. Greig Smith continues:[4] "There is no narrow neck as in umbilical hernia and no dissection of skin from parietes by burrowing omentum or intestine as in umbilical hernia. The hernial sac is simply stretched peritoneum; the coverings are stretched cicatricial tissue with a little fat and stretched skin. To cure this condition it is necessary to remove or push aside the redundant and attenuated tissues and bring into contact and keep in contact the thick and non-yielding parietes. To do this satisfactorily it is rarely necessary to enter the abdominal cavity." Here follows a description of his operation where the cavity is not opened.

Deeply regretting that Mr. Greig Smith, who was living when I began to prepare these notes last autumn, is no longer amongst us, I must be allowed to respectfully observe, in the interest of patients and operators, that the deceased surgeon's description of surgical ventral hernia can only apply to a very early stage of that troublesome complication. Even at that stage I should hesitate to operate without opening the peritoneum. When the hernia has developed further, so far from there being "no narrow neck" there may be a very tense narrow neck as in two of the four severe cases presently to be described.[5] Secondary sacs and burrowing of omentum and intestine are observed in this form of rupture just as in umbilical hernia. Firm adhesion of intestine to the cicatrix is frequent. I will now give the notes of four particularly severe cases in my own practice where all the above noted complications were detected. An operation was demanded on account of those complications which were successfully relieved. I must add that I am not sanguine about the ultimate result as far as complete immunity from recurrence is concerned. The four cases simply show that hernia of the cicatrix is a serious condition.

CASE 1. *Hernia of ovariotomy-wound two years; large sac; secondary pouch; circular sharp edged neck with intimate adhesion of the transverse colon in the middle of cicatrix.*—A single woman, aged fifty-one years, was admitted into my wards at the Samaritan Hospital in June, 1895. On April 10th, 1893, the late Mr. Hulke removed an ovarian tumour. The incision, Mr. Bland Sutton kindly informed me, was closed by a single series of waxed silk sutures. She remained six weeks in bed after the operation and wore strapping all that time. She did not have a belt till a month

[1] A paper read at a meeting of the Harveian Society of London on Nov. 18th, 1897.
[2] Abdominal Surgery, vol. i., fifth edition, 1896, p. 114.
[3] Ibid., p. 147. [4] Ibid., p. 114.
[5] Dr. Benno Schmidt in speaking of hernia of the abdominal cicatrix rightly observes that "as a rule the neck of the sac has not a sharp border" ("Die Unterleibsbrüche," Billroth und Luecke, Deutsche Chirurgie, 1896, p. 357).

after her discharge from the Middlesex Hospital, but went to work with a linen binder round her abdomen. The belt was not made to measure and did not fit. The patient told me that she first noticed a swelling in the abdominal scar eight months before admission—that is, in November, 1894, or over one and a half years after the ovariotomy. It caused her extreme inconvenience and she could not earn her living. She declared that otherwise her health was good; unfortunately she concealed the fact that in April, 1895, she had been seized with a slight convulsion which lasted for a few minutes. The abdominal walls were found to be very relaxed. The cicatrix was about four inches long and S-shaped. In the middle and nearer its upper than its lower limit was a circular hernial aperture nearly two inches wide. The edge felt sharp excepting above, where a soft body which I at once recognised as intestine adhered to it. When the patient coughed intestine escaped freely. On June 25th, 1895, I operated. I mapped out an incision carried all round the redundant skin and then dissected deeper on the right of the cicatrix proceeding cautiously till the peritoneum was opened. Then a deep secondary pouch was found, passing to the left under the left rectus and full of adherent omentum which I set free. The sharp circular neck of the hernia was now reached. The peritoneum was reflected over it, passing on to the sac, and half an inch of the transverse colon was firmly incorporated with the upper part of the neck. I cut into the peritoneum all round the ring, passing in front of the adherent colon, dissected away the pouch which extended far to the left under the skin, and then cut away the redundant integument. Then I trimmed the sharp aponeurotic border of the neck of the sac and dissected off the adherent colon, a difficult process as the fibrous tissue was incorporated with the wall of the intestine and there was much bleeding. The liberated colon slipped up high above the wound. I sewed together the cut edges of the peritoneum with stout catgut. Then I closed the aponeurotic layer, which had been freely trimmed so as to destroy the abdominal aperture, with the same material. The integuments were united with interrupted silkworm-gut sutures. All the silkworm-gut sutures were removed by July 3rd. On the 18th the patient had an attack of hemiplegia; spastic contraction of the right hand was marked. I sent her to St. Mary's Hospital in August, where she remained under the care of Dr. Maguire for a few weeks. The new wound healed well. The patient tried to do a little work in the autumn and admitted that the operation had given her great relief. No longer did a mass of intestine come out of the abdominal cavity on the least exertion. A fatal attack of paralysis occurred in December, 1895. The wound was quite strong when she died.

CASE 2. *Hernia of hysterectomy-wound four years; large sac with large secondary pouch; circular sharp-edged neck in the lower extremity of the cicatrix; firm adhesion of the small intestine and omentum to the fundus of the sac.*—The patient, a single woman, aged fifty-two years, had undergone varied treatment for uterine fibroid. Four years before I saw her an exploratory incision was made and six months later Dr. Remfry removed the uterus by supravaginal hysterectomy using the serre-nœud.[6] Soon after leaving the hospital a rupture developed. The patient left off her belt at the end of two years. The rupture grew larger and caused attacks of severe pain. The patient was referred to me by Dr. Frederick McCann and came under my care on March 9th, 1896. There was a hernial protrusion at the lower end of a cicatrix nearly five inches long. On reducing a mass of bowel I could feel the sharp neck of the sac about one and a half inches in diameter, and as the edge was soft and blunt on the right side I concluded that intestine must be adherent there. The fundus of the bladder rose in the groin completely to the right of the hernia and below it. On March 13th I operated, managing the integuments as in Case 1. I found the omentum strongly adherent to the sac when I dissected up the skin to the right of the cicatrix. After tying and dividing the omentum I explored the left side of the sac from within. I came upon a long coil of small intestine firmly adherent to the peritoneum close to the skin incision which I had mapped out on the left side of the much-stretched cicatrix. A small piece of the serous coat of the intestine was torn before I could set the gut free; the adhesions extended to the left iliac fossa far beyond the hernia. Then I found very firm omental adhesions to the under side of the upper part of the scar; one indeed lay above it, whilst another lay in a secondary pouch of peritoneum which ran under the rectus muscle an inch beyond the left limits of the main hernial sac. The omentum was hard to draw out of this secondary pouch. I now completed the excision of the sac by cutting through all the tissues on the left. The excised parietes were pyriform in outline. I found some moderately firm adhesions of the ascending colon to the parietal peritoneum on the right, to the neck in fact. Most of the neck had already been trimmed away during the separation of the complicated adhesions. I applied deep interrupted silkworm gut sutures through all the tissues including the peritoneum; then sewed up the aponeurotic layer with a continuous No. 3 silk suture, after which the silkworm gut threads were tied. The interrupted sutures were removed on the tenth day. In the course of the above operation I found that the stump of the uterus amputated four years previously was reduced to a broad, flat ligament which ran over the left side of the bladder and was lost above in the lower angle of the wound immediately below the hernial sac. The patient made a rapid recovery, but I enjoined long rest and she attended to my advice. In the summer she was in excellent health; the new cicatrix was firm and all the discomfort which she felt before operation had passed away.

CASE 3.—*Hernia of cicatrix of incision on the outer border of the right rectus for two years; enormous sac: no true neck; elongated secondary pouch with narrow neck almost strangulating the omentum; intimate adhesion of the omentum to the fundus of the sac: removal of the appendages for papillomatous disease.*—A woman, aged twenty-eight years, married eleven years, two children, the youngest eight years old, was sent into my wards in the Samaritan Hospital on March 21st, 1896. There was a large hernia of a cicatrix which extended along the outer border of the right rectus from the level of the umbilicus to the pubes. On coughing a large protrusion developed and the greater part of the intestines slipped into the sac when the patient walked about. There was also a tender swelling to the right of the uterus. The original mischief, as I learned from Mr. Lunn, was a neglected miscarriage, and she was so ill afterwards, in February, 1894, that she was unconscious when her friends took her into the Marylebone Infirmary. A large pelvic abscess was opened through the parietes and the peritoneal cavity was irrigated and drained. The patient made a good recovery but did not take care of herself. Severe pelvic pain and the constantly enlarging hernia made her seek for operative relief. On April 7th, 1896, I operated with the assistance of Mr. Corrie Keep. I made an elliptical incision around the distended integument, and dissected up the skin to the right. There was very dense cicatricial tissue beneath it, including, so to speak, a large mass of omentum. This was divided and then I explored the pelvis. The left as well as the right appendages were extensively diseased. After aspirating the right tube there was no difficulty in removing the diseased parts and securing the pedicles. The tubes were cystic and papillomatous degeneration was detected in both. I then turned once more to the hernia. Much thickened peritoneum was trimmed away, including a secondary pouch with a very narrow neck full of adherent omentum running under the skin in the lowest part of the wound. The cut edges were dissected up from the muscular layer in front (a matter of some difficulty) and united with a continuous suture of No. ½ silk. Silkworm-gut sutures, interrupted, were passed through the skin, muscle and aponeurosis and tied. The patient made a good recovery. The sutures were removed on the tenth day. The patient remained perfectly comfortable. Unfortunately, in March, 1897, a small digital protrusion developed in the lower angle of the wound. This is a hernia of the milder form such as will presently be described. It gives no inconvenience and is held back by a bandage. Of course, if neglected it would become as serious as before.

CASE 4. *Double hernia of median abdominal wound: exploratory incision three years; large sac with two secondary pouches and long, narrow neck; small sac with narrow circular neck lower down; strong adhesion of small intestine and omentum to fundus of large sac.*—A woman, aged twenty-seven years, married six years, last confinement five years and three months previously, was sent to my wards by Mr. Corrie Keep on July 5th, 1896, for the relief of a large hernia of the abdominal cicatrix. The history was remarkable. Her mother stated that she had several fits when a child.

[6] The period was never seen after this operation.

Dr. Findlater, of Edgware, and Mr. Sutton kindly sent me particulars of the operation where the wound was made. She was admitted into the London Infirmary in November, 1893, as a mental case. Her bowels were very stubborn from the date of her admission. On April 16th, 1894, they had not been opened for three weeks. She believed that she had swallowed a cork. The abdomen was greatly distended and the integuments were red, as though there was an abscess. The breath smelt fæcal and grumous liquid came away after enemata-like motion in cases of obstruction. At 8.30 P.M. on April 16th Mr. Bland Sutton operated and found no mechanical obstruction and nothing remarkable. The bowels except the sigmoid flexure were quite empty. At 10 P.M. she got out of bed, tore off all her dressings, and passed an enormous stool. During convalescence she was restless, but not more so than before the operation. About nine months before I saw her the scar began to bulge. Mr. Keep had kept her under observation for some time and found that the hernia was steadily increasing in size. The patient suffered badly from dragging pains and earnestly begged for operative relief. The hernial pouch was pear-shaped and nearly five inches long, including the entire cicatrix. It was deeply pigmented, as though the brown line which probably developed after the patient's only pregnancy had increased in width by deposit of fresh pigment during cicatrisation. On further examination I found that the hernia was double, as I could feel an elliptical gap one inch long in the aponeurotic layer near the upper part of the wound and another admitting the tip of the forefinger at the lower angle. On coughing intestine could be felt issuing from both gaps and the whole cicatrix bulged forwards as a large sac. On July 8th, 1896, I operated with the assistance of Mr. Targett. I mapped out a pyriform incision in the skin around the sac and cautiously dissected up the integuments on the left. I came at once upon a coil of ileum which adhered rather firmly to the sac which issued from the upper gap; it could not be detached without damage to its serous coat, which was repaired. The ileum then fell back into the abdominal cavity. There were several omental adhesions on the upper part of the sac and even higher on the parietes above the hernia. The omentum was set free, including a long and tough band which turned upwards and adhered to the transverse colon, drawing it down below the level of the umbilicus. Two secondary pouches existed in the sac wall, burrowing to the left under the skin, but they were empty. The peritoneum after the excision of its two sacs was separated from the aponeurotic tissues and its edges united with fine catgut and the two gaps in the aponeurosis carefully trimmed and united with stout catgut. The lower or circular gap in the wound was occupied by a short process of peritoneum containing no adherent intestine or omentum; it was readily trimmed away. The integuments were brought together with interrupted silkworm-gut sutures.

During convalescence the patient had symptoms of hystero-epilepsy and was very violent from the first, yet there was absolutely no trouble due to flatulence or any difficulty in getting the bowels open. All the skin sutures were removed on the eleventh day and the patient was discharged on the twentieth day. A month later she was reported as quite free from any of the trouble due to the hernia; she was under treatment for her nerve symptoms in the Marylebone Infirmary.

It is clear that the above cases were forms of ventral hernia which could not have been treated after the fashion recommended by Mr. Greig Smith, and they displayed conditions which he seemed to consider as rare or non-existent in this kind of rupture. Operations of the kind just described are not without risk. I know of two fatal cases, in one of which inflammation of the parotid occurred.

In analysing these four cases the first thing to note is the apparent cause of the hernia in each. In none could either the operator or his method be blamed. Thus the patient in Case 4 was half insane and considering her behaviour directly after the first operation it is remarkable that she did not suffer from worse complications than hernia. In Case 1 the patient chose to wear an ill-fitting belt from the first without acquainting Mr. Hulke of the fact. How far her cerebral disease was the cause of carelessness on her part I cannot say. Case 3 is easily understood the incision was made through inflamed tissues for the relief of suppuration and drainage was necessary. There remains Case 2. Here the operator had to cut through an old cicatrix made for exploratory purposes and he found it best to use the serre-nœud. Under such conditions hernia may develop notwithstanding the greatest care. As with these four cases so it is as a rule with most other instances of hernia of abdominal cicatrices, save where there has been manifestly undue hurry in removing the sutures or where the peritoneum has been taken up too far from its cut edge or where the operator has evidently been careless in regard to the bandaging or strapping of the wound. In all four cases the patient eagerly solicited an operation for the relief of her condition. In Case 3 an operation was urgent, the discomfort was extreme, and the hernia very large. The patient in Case 2 also suffered badly, the neck of the sac was very sharp, and, as in Case 3, the patient was perfectly competent to decide for herself. In the latter respect the matter was somewhat different in the first and last cases. In Case 1 the patient concealed from us the fact that she had suffered from disease. Her friends admitted that she dreaded to let the truth be known lest she might lose a situation. I fancy that I should not have operated had I known about the fit; hemiplegia is a much more serious matter than ventral hernia, and the attack after the operation gave me great anxiety. Still, there was a dangerous hernia with a narrow neck causing extreme discomfort which the operation entirely relieved. The patient in Case 4 also had serious nerve disorder, but the hernia was causing her misery and by means of vigilant nursing the patient recovered from the operation with complete relief from all abdominal trouble. The nerve disease was of a much less grave character than in Case 1 and the hernia had undoubtedly aggravated it. In all, the peritoneum of the main sac was closely incorporated with the skin so that it could not be dissected off. On the other hand, the secondary sacs did not in any case adhere to the skin or aponeurotic tissues; indeed, in Cases 2 and 3 I discovered the secondary sac by inverting it when dragging an omentum which proved to be adherent to its inner wall. Strictly speaking, a secondary sac is only a lateral offshoot of the main sac which not being pressed firmly forwards against the cicatrised integuments does not rapidly contract adhesions.

The neck of the sac was a narrow ring with sharp edges in Cases 1 and 2. In Case 4 there were two sacs; the larger had a neck consisting of a gap between the recti. The neck of the lesser sac was a more circular space near the lower angle of the wound. The upper sac was clearly the older. The lower admitted intestine and omentum but was free from adhesions, it represented an earlier degree of rupture as in cases which will presently be related. The diagnosis of intestinal adhesions to the sharp ring in Cases 1 and 2 was easily made. In Case 3 there was no true neck; in this case there was a secondary pouch with a very narrow neck almost strangulating the omentum. In Case 1 the neck of the sac was nearer the upper than the lower extremity of the wound. In Cases 1, 2, and 4 no drainage-tube had been inserted at the first operation, but in Case 2 the lower end of the wound had been filled by the stump of a uterine fibroid. Case 3 was drained; the wound was lateral. The tendency to adhesion of omentum and intestine to the parietes behind the neck of the sac was marked in these cases. It is very usual to find adhesions behind a normal cicatrix when a second ovariotomy is performed long after the first.

Turning to the steps of the operation it is self evident that the operator should map out his incision through the protruding skin and then cut through the skin at a point which seems safe. Complete excision cannot be safely effected till towards the end of the operation. If the peritoneum be not closely adherent to the integuments at the selected point so much the better, but the knife often comes on omentum (Cases 2 and 3) or intestine (Case 4) at once. Thus the above cases show that, as I have before remarked, a neglected hernia of the cicatrix is a serious condition and involves complications that demand operative relief. Yet when they are relieved it is not certain that the hernial protrusion will not recur (Case 3). The aponeurosis and muscle are too often irretrievably damaged; the operation is rather for the liberation of intestine and omentum than for complete restoration of the parietes to their previous normal condition.

I will now turn to the consideration of hernia of the cicatrix in its earlier stages when no operation is required. I have seen a very large number of ruptures of this kind, but I think that it is only fair that I should confine myself at present to cases where I was the original operator. I have taken considerable pains to search for after-histories and shall be glad of any further information.

CASE 5.—In February, 1891, I operated on a woman, aged

thirty-five years, who was fairly nourished, and removed two ovarian cysts. The incision, two and a half inches in length, was closed with five deep silkworm-gut sutures and a continuous horsehair suture was applied to the integuments along its lower half. These were removed on the seventh day. Fourteen months later the wound was strong. In August, 1894, I felt a small gap in the aponeurotic layer large enough to admit the point of my little finger. In May, 1897, I found that the gap had not grown larger and that there was distinct impulse over it on coughing. This was one of Mr. Greig Smith's type of ventral hernia, I suspect. It caused the patient no inconvenience. I never remove all the sutures on the seventh day now, but I doubt if their early removal caused the hernia. No drainage-tube was used in this or in the next two cases.

CASE 6.—In November, 1891, I removed a large tubo-ovarian cyst from a rather thin woman, aged forty-six years (II-para). The incision, three inches long, was closed with six deep silkworm-gut and three superficial horsehair sutures. Half the deep sutures were removed on the seventh day, the rest on the tenth. I often saw this patient afterwards. In October, 1894, I detected a minute hernia in the middle of the cicatrix; on coughing it formed a protrusion as large as a cob-nut. This case is almost identical with the last. Let it be noted that here as in the next case the hernia was not in the lower angle of the scar.

CASE 7.—The patient in this case was a multipara, aged forty-three years. She was rather fat. In July, 1893, I removed the appendages for chronic disease through an incision not quite three inches in length. I closed the wound with five deep and one superficial silkworm-gut sutures. By the eighth day they were all removed. A year later the cicatrix was strong. I saw the patient this spring. There was a small hernial protrusion in the middle of the cicatrix admitting the tip of the forefinger.

In a case of ruptured tubal pregnancy where I drained a slight hernial protrusion developed five years afterwards. Lastly remains a curious case where I removed both ovaries six years ago for checking the growth of a moderately large fibroid in a rather stout subject, aged thirty-nine years. The tumour diminished steadily in size. It happened, however, that a small pedunculated growth of the shape and size of a large brass button lay in front of the tumour in the median line so that it pressed against the scar. No doubt the pressure of the belt acted prejudicially under these exceptional circumstances. The pedunculated outgrowth pressed the cicatricial tissue apart and has come to lie under the skin. It gives no inconvenience though it may prove troublesome when the uterus becomes much smaller from dragging on the scar.

It is remarkable that though I at one time used the drainage-tube very freely I have only once seen a hernia form in its track and that was in one of the cases above noted. Thus an incipient hernia of a cicatrix is not very serious provided that it be carefully watched, the patient being intelligent and prompt to carry out the advice of her medical attendant. No operation is demanded in this form of hernia. Were it necessary I should hesitate to follow Mr. Greig Smith's advice, leaving the sac unopened. In the smallest protrusion there might be an omental or even intestinal adhesion. Experience shows that a small hernia may be kept back indefinitely by careful bandaging so as to remain in a stationary condition. The patient must be warned to be particularly cautious if she finds that she is growing stouter, for in a corpulent subject scar-tissue is apt to grow weak, whilst fat omentum tends to push its way into the sac to which it soon becomes adherent.

The cause of hernia is manifestly non union of the cicatrix in one of the layers or stretching of the cicatrix. Hence the best method of ensuring union, in other words, the best kind of suture, is a matter of great importance. Unfortunately this question is by no means settled. According to my own experience I am no believer in the superiority of any method. I have known hernia to occur where the wound had been closed by a row of interrupted sutures passing through all the layers. I have seen just as bad hernia when the aponeurotic layer had been united by a separate continuous catgut suture. Deep interrupted sutures, whatever has been said to the contrary, must surely allow of the normal union of each layer as a rule, for I have examined many scars of wounds so treated ten or more years earlier by Spencer Wells and found them sound, though I have detected hernia in similar cases once under that surgeon. Separate union of the aponeurosis is no guarantee against the development of a hernia. Many operators (Martin, Winckel, and Chrobak) admit this fact. Mr. Cripps goes so far as to declare that a continuous catgut or other suture applied to the aponeurosis actually weakens the wound, being a foreign body.

In operations such as those which I have described for the cure of a hernia separate union of the aponeurosis is absolutely necessary as the edges of that layer gape widely and have to be trimmed and brought together. The peritoneal layer may also in these cases need separate suture. When on the other hand a wound through normal tissues is closed the structures on each side are healthy, free from atrophic changes, and easily brought into apposition by deep interrupted sutures. Statistics about the relative merits of sutures are untrustworthy for several reasons. I spoke on this subject at the Geneva meeting of the International Gynæcological Congress in 1896,[7] and noted that when an operator published better results after a change of treatment it often implied that he had become a better and more experienced surgeon. There was a more serious fallacy, for some of the same speakers who issued these records laid stress on the fact that a hernia did not always develop until many years after the operation. Here they were quite correct; yet with that knowledge they published the results of five, ten, or twenty years' experience with an older method and compared them with what they are pleased to call the more satisfactory results of two or three later years' experience of a newer method. This grave source of fallacy is prominent in the "Report of the Discussion on Abdominal Sutures and Abdominal Hernia at the Vienna Meeting of the Deutsche Gesellschaft für Gynäkologie, June, 1895."[8] All manners of suture seemed to answer in the practice of different authorities who at the same time admitted that none guaranteed against hernia. Since I prepared these notes early last autumn Professor La Torre's important essay on the same subject has been published. I agree with him that up to the present day we lack precise knowledge on many questions relating to hernia and sutures. The sixty-three opinions which he has collected since the German Congress are very conflicting and in many cases seem based on insecure foundations such as I have just indicated.[9]

Bossi of Genoa represents the extreme school which advocates suture of each layer separately. He unites the peritoneum in this manner, and there are British[10] and other operators who agree with him. In cases of hernia like Cases 1, 3, and 4 in this paper where much peritoneum is trimmed away separate suture of the cut edges of that membrane may be necessary else apposition will be imperfect. I strongly object to this practice, however, after an ordinary abdominal section, for I know well that union of the serous layer begins very early even when a single set of deep interrupted and not very close sutures are applied. Nearly twenty years ago I found complete union of the peritoneum in necropsies on patients who had died with septic or other bad symptoms within a few days after ovariotomy.[11] No doubt the wound often gapes when sepsis has lasted for several days, but not through the fault of the suture.[12] On the other hand, Martin and Mr. Greig Smith represent the school diametrically opposed to Bossi. Martin holds that complicated methods appear doubtful. He passes silk threads through all the layers. It is true that he applies a few superficial sutures to the skin, but more to ensure speedy healing of a cutaneous wound than to avoid hernia. Mr. Greig Smith advocated the deep suture ("mass-suture," as he called it) on good theoretical grounds, though he gave directions for the application of continuous sutures in separate layers. He looked on "the separate suturing of

[7] La Gynécologie, vol. i., 1896, p. 523.
[8] Centralblatt für Gynäkologie, 1895, p. 780.
[9] "Quel est le Mode de Fermeture de l'Abdomen qui paraît garantir le mieux contre les Abcès, les Éventrations et les Hernies?" La Gynécologie, vol. ii., 1897, passim. The sixty-three opinions will be found on pp. 213 to 244. See also Dr. Currier's Suggestions Concerning Ventral Hernia Resulting from Abdominal Section and its Treatment, with Discussion, Transactions of the American Gynæcological Society, vol. xxii., 1897, p. 106.
[10] Bland Sutton and Giles: The Diseases of Women, 1897, p. 383.
[11] Clinical and Pathological Observations on Tumours of the Ovary, &c., p. 129. Case 1.—Death on sixth day; peritoneal edges adherent. Case 2.—Death on eighth day (tetanus); peritoneum united very closely throughout.
[12] Ibid., p. 130. Very fat subject; pyæmia; death on twentieth day. "The peritoneal borders of the wound were so feebly united by lymph that they came apart in gentle traction at the necropsy." Thus at least they were united. Of course, the union was weak in these early and fatal cases. What I so deavoured to demonstrate above is that the union of the peritoneum is speedy without separate sutures.

each parietal layer as a refinement always, and as a superfluity usually, provided that the single group suture is properly placed."[13]

I myself always apply deep interrupted sutures and take up not more than one-eighth of an inch of the peritoneum. If too much serous membrane be taken up it will become everted and prevent the aponeurotic layer from uniting; thus a hernial pouch is actually manufactured by the operator. On the other hand I disapprove of the practice of leaving the serous layers out of the stitching altogether. When sutured the peritoneum unites rapidly and thus cuts off its great cavity from the wound—an aim we all desire. The suture track surrounded by lymph never seems to endanger the peritoneal cavity. The fibres of the rectus muscles must be included in the sutures else they will retreat inside their sutured sheath. When ordinary precautions are taken there will be no fear of suppuration of the sutured muscle. The same management is necessary for the closure of muscle in an incision away from the middle line. I often apply a few superficial sutures to the integument, after Spencer Wells's and Martin's practice, so as to make a sightly scar. In some very thin and in most very stout subjects I unite the sheath of the rectus with a continuous buried suture. In a very thin subject this prevents all danger of imperfect union from eversion of the sutured line of peritoneum. In a very stout patient I think that it is advisable to suture the sheath separately. Mr. Greig Smith when arguing against separate suture of each layer as an absolute necessity rightly observes that as young cicatricial tissue is the same for all the layers, and as each layer will certainly appropriate its own bundle of fibres from the common stock, little harm can be done if apposition be not accurate. Unfortunately this apposition may be very inaccurate in a fat wound, the subcutaneous and subserous adipose tissue being likely to form a junction at one or more points, and healing is relatively slow. The separate suture neutralises these dangers. I need hardly say that it must be gently applied, for one of the evils of the separate layer system of suturing is that it takes up time and each layer is exposed to much handling. On the other hand, the application of the deep sutures in a very fat wound may involve rough handling. The nozzle of most needle-holders is apt to bruise the fat. Hence I prefer to pass a large Péan's pedicle needle through the wound, then to thread it, and lastly to withdraw it. In an average or a thin wound it is handier to pass a curved or straight suture needle ready threaded through the tissues; Wells's well-known method, though not essential, as he believed, is the best, as the layers are the least disturbed if the needle be pushed through the serous layer outwards on each side. The deep sutures should be removed in part about the ninth day. It is best to take out the remainder within the end of the first fortnight. Still, better too late than too early is the rule for the removal of sutures. I need hardly say that sutures must be clean when applied and not tightened too much, and that the wound must be carefully supported by strapping and bandages. The operator must further remember that the most dangerous enemy to the wound is the steady pressure of flatulent intestine behind it.

The material for suture is not a matter of primary importance as far as our present subject is concerned. I much prefer silkworm-gut to silk, but the latter material is used and commended by many experienced operators. For the aponeurosis, where a continuous suture is applied, stout catgut or No. 1 or 2 silk is the best material. Fine catgut answers best to unite muscular tissue in abdominal wounds away from the median line.

In conclusion, I must admit that I feel sceptical about perfect success even with all the precautions which I practise. Martin rightly pointed out at Vienna in 1895 that the entire discussion on hernia of the abdominal wound was not on a sound basis, for different abdominal wounds healed very variously. Secondly, reports on the value of any one method are open to fallacies as I have already demonstrated. Lastly, the patient is often to blame for the complication. She is apt to discard the proper supports very early and in other ways to disregard advice. Hence it is the duty of the surgeon to warn her very strongly. For, as we have seen, a hernia of the abdominal wound may develop into a very ugly complication demanding surgical treatment which however necessary and justifiable is seldom in every respect satisfactory.

Granville-place, W.

[13] Loc. cit., p. 110.

ON THE VALUE OF OLIVE OIL IN THE TREATMENT OF TYPHOID FEVER.

BY OWEN F. PAGET, M.B., B.C. CANTAB.

DURING my residence in Fremantle, Western Australia, it has been my lot to attend a large number of patients suffering from typhoid fever (well over 100) who were placed under the most disadvantageous circumstances, many of them living in tents and many of them unable to obtain any form of fresh milk. Yet my percentage of death is *nil*, and this is the more remarkable seeing that among patients removed to the hospital, where they are properly attended to and receive suitable nourishment, the percentage was as high as 20 in 1896 and 11 in 1897 with better accommodation.

Now this success, though undoubtedly to some extent due to good fortune, I attribute very largely to the use of salad oil in this disease. Nearly all typhoid fever patients when they first come under observation are suffering from constipation or diarrhœa; during constipation the "typhoid bacillus" acquires its power of developing—it is rare indeed for a patient not to have suffered from fæcal accumulation either before or during the commencement of the disease, for though accumulation may not always have been apparent, irritative diarrhœa having masked its presence, yet I am fully convinced of its occurrence in nearly all, if not all, cases. This constipation is followed by diarrhœa and a gradual solution of the fæcal accumulations caused by the pouring out of mucous and other fluids from the intestine. These fæcal solutions being intensely irritating help to inflame the already infected Peyer's patches and, in addition, give rise to violent peristalsis, preventing rest which is so important to inflamed regions. Added to this there is the enormous drain of fluid from the intestinal mucous surface. Now the fluid poured out is of course to a certain extent reabsorbed, but not before it is saturated with ptomaines; this necessarily causes violent constitutional disturbances in the patient, as high temperatures, cardiac paralysis, and intestinal paralysis with tympanites, exhaustion, delirium, and insomnia (with its accompanying uses of depressing drugs), sapræmia, septicæmia, pyæmia, secondary infection of glands, abscesses in bones, and death.

Now typhoid fever is merely an inflammation of Peyer's patches usually followed by ulceration. It will be a long time (if ever) before we can prevent this taking place. The onset is so insidious that even were we able, patients would not come early enough to the physician to give him the opportunity. The problem therefore resolves itself into treating an inflamed and possibly ulcerated surface, and the same laws hold good here as in any other part of the body—namely, rest and protection from irritating substances and collection of discharges. As a proviso it is necessary to remember that the patient must not starve. Now to keep these ulcers at rest and to remove irritating substances all that is needed is salad oil. This is given as an injection by the bowel, a large breakfast-cupful (from a quarter to half a pint) being used for the first four or five days at intervals of from twelve to twenty-four hours. Its benefits are distinct from the first, the temperature almost always falls 1° F., and the patient, instead of being irritable and restless, becomes calm and composed. After the fifth day it may be given every second day or left off entirely if the patient is having natural motions at least every twenty-four hours and if the temperature is steadily falling. There are, however, a certain proportion of cases which do not respond to injections; nothing comes away and the bowel is apparently empty, but it is in these very cases that the accumulation is worst. Suddenly the temperature runs up and the patient is seriously ill. Now it is the very virulence of the accumulation which, paralysing the gut, prevents its coming away. The remedy is simple. Give salad oil by the mouth, a large breakfast-cupful at a time; there is no need to be frightened, no harm will result, but the bowels will almost certainly respond, and injections are now able to manage the rest. If the first dose is without effect repeat after twelve hours.

Salad oil in typhoid fever is a perfect boon to the general practitioner. He can leave his patient fearing neither high temperature, delirium, insomnia, heart failure, or tympanites. I have never used the wet pack or other appliances for lowering the temperature (except sponging with vinegar and

lukewarm water), nor have I ever used any of the vaunted intestinal antiseptics, never having had a high temperature or other complications which did not respond to salad oil except in two cases. The first was that of a boy with hæmorrhage whose father and mother were always drunk and neglected him disgracefully. The second was a case of mitral stenosis which came under my care in a late stage of the disease. The patients in both cases ultimately recovered.

Lastly I would say that there seems to be no danger in conscientiously palpating and percussing the abdomen for the first week of the disease, and it is a valuable aid in estimating the disappearance of accumulations, though the temperature and general *bien-être* of the patient are now my usual guides.

Salad oil, one pint by the mouth and half a pint per rectum, has also given the most gratifying results in two cases of typhlitis under my care.

Fremantle, Western Australia.

SYPHILIS AS A CURE.

BY J. ROSS MACMAHON, M.B., C.M. ABERD.

THE above heading is somewhat paradoxical. We are accustomed to see and hear of syphilis in any other light than that of a cure. The following extraordinary and interesting case, however, manifests syphilis as a beneficent evil and although the curative element is dearly bought and the practical value little such is its academic interest that it is well worthy of record.

The case was that of a young man who had suffered from a patch of lupus vulgaris non-exedens since his eighteenth year. He had resorted to various methods of treatment under different medical men, but receiving no lasting benefit he substituted nonchalance for remedies. In his twenty-seventh year he contracted syphilis, developing in turn Hunterian chancre, bubo, sore throat, slight roseola, &c., and underwent mercurial treatment for two months. With the exception of occasional sores inside the mouth and slight debility nothing further accrued from the syphilis until the time I saw him. He came to me in March of this year and complained of sores on his left cheek spreading towards the lupus patch and slightly encroaching on the same. Towards the middle of the left cheek an irregularly oval patch of lupus vulgaris was to be seen with its long axis more or less parallel with the horizontal ramus of the lower jaw; it measured about 2½ in. in long diameter and 1½ in. in short diameter, with a small outstanding patch on either side stationed abreast. The patch was of a uniformly pinkish-red colour studded all over with apple-jelly nodules, but more especially so at the margin. There was no sign of breaking down or ulceration, but at one end was a small area in which the disease had disappeared and left some uneven scarring. Spreading over this in a fan-shaped fashion was the advancing crescentic ulcerating edge of a deep serpiginous syphilide. The syphilide appeared to have commenced in a broken-down nodule on the skin over the middle of the horizontal ramus and to have spread in a generally circular manner down the neck and over the cheek, leaving a pinkish white faintly pigmented scar. The pigmentation was more of a light brown mottling, the cicatrix was dense and tolerably even. When seen it had just invaded the lupus area and appeared likely to travel right over it.

On my advice the patient refrained from general treatment and I contented myself with applying mercurial plaster to the advancing edge on the neck. Cheekwards the disease advanced with some rapidity, mingling with the tissue of the lupus patch, the two combining to form ulceration which involved the whole depth of skin well down to the subcutaneous tissue. The skin on the lupus area broke down very readily on the approach of the syphilide, forming extensive ulceration. The edge of the ulcer was irregular and shreddy, not characterised by the punched-out steep edge of the syphilide *per se*, but marked by an unmethodical eroding; the base was foul, sloughing, reddish-grey in colour, and discharging freely a thin dirty liquid.

In the course of a week or ten days the ulceration had run over the greater extent of the patch, travelling most rapidly towards the left nostril. With the local application of iodoform ointment I now prescribed mercury internally, whereat the ulcerating process at once began to abate its fury, slowly at first, and only stopped when it had involved the whole lupus area, save the upper of the two small patches. Gradually increasing the mercury and after a few days adding small doses of iodide of potassium the base of the ulcer sloughed away, a healing edge began to encroach on the raw surface, granulation sprang up, and repair slowly went on to a close. In about eight or nine weeks a large purplish-brown cicatrix formed almost level with the surrounding skin, uniform and tolerably regular, and nothing remained of the lupus area except the small outstanding patch composed of a few lupomata and one or two nodules of the upper edge of the large patch which had escaped the ravages of the syphilide. To these I applied the galvano-cautery very thoroughly and dressed with a mild mercurial ointment. Shortly afterwards the patient went to sea.

In about three months I saw him again. The cicatrix over the lupus area had lost much of its pigmentation and had begun to assume a more purplish-white colour. Only one or two nodules of lupus were visible on the patch I burnt and to these I again applied the cautery. As a whole the scar is not very disfiguring, and to the patient is much less objectionable than the lupus with the risk of its progressive increase and disfigurement.

Blackheath.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

"CONGENITAL ABSENCE OR DELAYED DEVELOPMENT OF THE PATELLA."

BY HAROLD N. MAYER, M.D. CHICAGO.

IN an article in THE LANCET under the above heading Mr. E. Muirhead Little[1] gave a summary of the recorded cases of absence of the patella with the extraordinary signs of degeneracy commonly associated with this condition. Dr. A. H. Burgess[2] has also described a case in which this bone was congenitally absent and which was associated with marked signs of degeneracy. There is at present in the infirmary on the poor farm in Chicago an individual who has congenital absence of the patella associated with most extraordinary stigmata of degeneration. His head, which is large, is decidedly asymmetrical, the left half of the face being somewhat larger than the right. The skull is exceedingly irregular in its osseous conformation. Both ears are very small and irregular and the ordinary auricular markings are not very apparent. There is microphthalmus of the right eye with apparently congenital haziness of the cornea. Most of the teeth have been lost but the dental arches are well formed. The arm and forearm are fairly well developed but each thumb is broad and both thumb-nails have a central groove. There is a rudimentary finger on each hand. Over the lower end of the sacrum is a fold of skin which rises somewhat above the surrounding level and conceals a slight opening in which a probe can be passed for about a depth of one-fourth of an inch. The testicles are undescended. The thighs are well formed with the exception of the absence of the patella. The knees are not in the position of hyperextension figured in Mr. Muirhead Little's article, but there is a certain amount of permanent flexion and the patient walks with them at nearly a right angle with the thigh. The feet are turned inward, so that if the leg were extended and he were standing upright pressure would be made directly upon the outer side of the foot. In the position in which he commonly moves, with the body bent upon the thighs and the legs flexed upon the thighs, he brings the soles of the feet in this position nearly parallel with a flat surface.

The individual is an imbecile and was exhibited at one time as part of a show under the title of the "Bear-Man,"

[1] THE LANCET, Sept. 25th, 1897, p. 781.
[2] THE LANCET, Oct. 2nd, 1897, p. 880.

due to his peculiar method of locomotion. Later he developed delusions of suspicion, became somewhat unmanageable, and was finally brought to the almshouse.

Chicago, Illinois.

A CAUTION AGAINST THE USE OF KEROSENE IN THE TREATMENT OF PEDICULOSIS CAPITIS.

BY MAURICE EDEN PAUL, M.D. BRUX., M.R.C.S. ENG., L.R.C.P. LOND.

ONE of the most convenient methods of treating pediculosis capitis is by rubbing the scalp and hair with kerosene. It instantly destroys the lice, it loosens the nits, and it soothes the cutaneous irritation. The recent death from burns consequent on the spontaneous ignition of hair that was being rubbed after the application of a hair-wash consisting principally of kerosene makes it necessary, however, to reject the use of kerosene as a parasiticide lotion to the hair. It appeared from the inquest in the above-mentioned case that the ignition of the hair was unquestionably not brought about by any naked light; and Lord Kelvin suggested (in a letter to the *Times*) that an explosive mixture of air and kerosene vapour having formed in the interstices of the hair this mixture was then ignited by an electric spark formed by friction of the hair. It is evident that no amount of care could guard against the repetition of this accident when kerosene was being applied to the hair.

Nagasaki, Japan.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

LONDON TEMPERANCE HOSPITAL.

A CASE OF RUPTURED PYOSALPINX CLOSELY SIMULATING PERFORATION OF THE APPENDIX; NECROPSY.

(Under the care of Dr. SOLTAU FENWICK.)

THE difficulties of diagnosis in cases of localised peritonitis are very great, not with regard to the fact of peritonitis but with regard to the cause, and in the following case the pain situated in the hypogastric and right iliac regions was very suggestive of perforation of the vermiform appendix, but the pelvic signs pointed strongly to a pelvic origin of the disease. From the post-mortem examination it was obvious that there had been an attempt to localise the peritonitis, but this had failed and a general infection of the peritoneum had resulted. The commencement of the pyosalpinx probably occurred at the parturition twenty-one months before admission to the hospital.

A woman, aged thirty-nine years, was admitted into the London Temperance Hospital on Oct. 6th suffering from abdominal pain. The patient stated that she had been in good health until her second confinement twenty-one months previously, after which she was laid up for five weeks with "inflammation of the bowels." Since her recovery from that complaint the catamenia had appeared every fortnight, but she had never suffered from constipation, abdominal pain, or dyspepsia. Ten days before admission, while apparently in perfect health, she was seized with vomiting, which continued throughout the night and part of the next day. Under the impression that she was bilious she took a couple of pills which acted freely on the bowels. In the evening, however, she was suddenly attacked by severe pain in the abdomen. For the first few hours the umbilical and right iliac regions were the chief seat of the suffering, but subsequently the pain became diffused over the whole abdomen, and at the same time she felt feverish and thirsty. When admitted to the hospital the patient had the appearance of being extremely ill. The face was flushed and the tongue was furred; the pulse-rate was 112 and the temperature was 102·8° F. A liquid and offensive motion was passed soon afterwards, and several ounces of yellow bile were vomited. The tongue was moderately furred but moist, and the urine, which was voided without pain, contained a trace both of sugar and of albumin. On examination the lower half of the abdomen was found to be slightly distended and somewhat tender on pressure. The pain was chiefly referred to the hypogastric and right iliac regions, but neither tumour nor sense of resistance could be detected, while the percussion note was uniformly tympanitic. On vaginal examination the uterus was found to be rather low in the pelvis, and firmly fixed in the median line as though set in plaster-of-Paris. The finger inserted into the rectum encountered the same sense of resistance when pressure was made in a lateral direction, but no bulging or tumour could be felt, nor did the examination cause the patient undue pain. The other organs of the body were apparently normal. In view of these physical signs pelvic peritonitis was diagnosed, and the patient was ordered small doses of opium, while the abdomen was frequently fomented. On the following morning (the 7th) she appeared to be considerably better. The temperature had fallen to a point slightly over 101, the pulse and respiration had diminished in frequency, and little complaint was made of abdominal pain. On the 8th the temperature had fallen another degree, the pain was less troublesome, while in response to an enema a considerable quantity of fæcal material had been evacuated. The abdomen was still somewhat distended inferiorly, and pain was experienced on deep palpation over the region of the cæcum. There was no dulness on percussion over this part, nor could any localised fulness or tumour be detected by the finger in the rectum. After remaining in about the same state for two days the patient became markedly worse. The vomiting recurred and an access of pain in the lower part of the abdomen was complained of. The temperature rose to 103·4° and the pulse varied between 112 and 120. The abdomen was now found to be uniformly distended, and pressure over the right iliac region gave rise to pain and nausea. Comparative dulness on percussion was detected over the position of the cæcum, but there was neither swelling nor sense of resistance there or in the loin. Taking into consideration the gravity of the general symptoms, with the increased distension of the abdomen and the development of comparative dulness on percussion over the cæcum, it seemed probable that there was a collection of pus in the right side of the pelvis which was making its way behind the cæcum and coming forwards between that organ and the abdominal parietes like an ordinary perityphlitic abscess. A consultation was consequently arranged with Dr. W. J. Collins, who agreed to perform an exploratory operation early the following morning. Unfortunately, however, a few hours later the patient was attacked with collapse and rapidly succumbed.

Necropsy.—The small intestines were found to be greatly congested and spotted with flakes of lymph. On lifting the integuments covering the right iliac fossa and drawing the cæcum inwards a quantity of pus made its escape from beneath the bowel. On further examination a cavity containing about five ounces of pus was found to occupy the upper part of the right half of the pelvis, the internal wall of the sac being formed by the uterus and numerous old adhesions existing between that organ and the other pelvic viscera; while its upper boundary consisted of several adherent coils of small gut. Hanging in the middle of the abscess cavity was a well developed and perfectly healthy vermiform appendix. In close proximity to it was a pyosalpinx of the right Fallopian tube resembling a small walnut in size and shape, the rupture of which was responsible for the pelvic inflammation.

LIVERPOOL NORTHERN HOSPITAL.

A CASE OF ACUTE GENERAL SUPPURATIVE PERITONITIS TREATED BY LAPAROTOMY; RECOVERY.

(Under the care of Mr. CHAUNCY PUZEY.)

IN THE LANCET of Oct. 9th, 1897, p. 916, we published a case of acute general peritonitis under the care of Mr. Leonard Gamgee in which recovery followed the washing out of the abdominal cavity, and a fair number of cases are now on record in which this treatment has proved successful; but the mortality must always remain high for many of the

patients do not come under treatment until the peritonitis has lasted several days. Of twenty-five cases in the Berlin Clinik6 only five recovered.[1] Quite recently Dr. J. M. T. Finney,[2] in the "Johns Hopkins Hospital Bulletin," has advocated the thorough and systematic wiping out of the whole peritoneal cavity with large pledgets of gauze after allowing all or as much as is necessary of the small intestine to escape from the abdominal cavity, then each loop of the small intestine is to be wiped carefully while still outside the abdomen; his method has proved successful in five consecutive cases and so is deserving of consideration. Others are opposed to anything more than simple incision with free evacuation of the infected effusion and the results are certainly remarkable. It is highly desirable that in all cases of acute suppurative peritonitis a careful bacteriological examination should be made of the pus.

A boy, aged fifteen years, was on May 31st, 1897, sent into the Liverpool Northern Hospital as a case of intestinal obstruction. The patient presented a wasted and collapsed appearance and was too ill to give any satisfactory history of his illness, and his parents appeared to know little about him. Later, it was ascertained that three weeks before admission he had been bathing in a dirty canal and, on returning home, "began shivering." On the next day he went to work feeling pretty well. A week later he "felt a dreadful pain" in his abdomen but went to work in pain all the next week. Then he went to a "doctor" (? druggist) who gave him a black draught, which did him no good. So he went to bed, and lay there for a week, suffering from pain and sickness, but without medical attendance. Then a medical man was sent for, who ordered his immediate removal to hospital.

The patient's symptoms on his admission, in addition to the general appearance before mentioned (a most marked facies abdominalis), were tenderness and moderate distension of the abdomen, with rigid muscles; the knees were only slightly drawn up; the tenderness was most marked in the left loin and pelvis, where there seemed to be most feeling of resistance on pressure, and where there was also dulness on percussion. The bowels had been slightly moved twenty-four hours previously; but since then, neither fæces nor flatus had been passed. There was occasional vomiting of offensive, but hardly fæculent fluid. The tongue was dry down the middle and furred; the pulse was 120 and the temperature was 100° F. Rectal examination discovered a soft mass somewhat resembling an intussusception; and on this supposition, an indiarubber tube was passed up the bowel as far as practicable, a glass funnel attached, and the pelvis being raised and the anus firmly occluded, about two pints of hot water were gradually poured into the bowel, until the patient complained of pain. On removing the tube, and passing the finger into the rectum, the obstruction had disappeared, and the rectum felt widely distended. Very little of the fluid returned. It must have been absorbed; for he passed large quantities of highly coloured urine, although he was taking no fluid by the mouth. One-sixth of a grain of morphia was given subcutaneously, and he seemed easier; the pulse was stronger and the fulness in the left flank was less marked. On the next day (June 1st) the patient's condition was much the same, and on examination the obstruction in the rectum was again found, but was less marked. The irrigation was repeated and again the obstruction disappeared. The boy's parents had refused consent to anything more being done, but on the next day, his condition being decidedly worse and the vomiting more distressing, they consented to an operation; and it was decided to explore the abdomen without further loss of time.

This operation was performed under ether after the usual preliminary cleansing of the abdominal wall. An incision three and a half inches long was made in the middle line between the umbilicus and pubes. On opening the peritoneum, which was partly adherent to the intestine, a drachm or two of thin fœtid fluid escaped. The intestines were moderately distended and were matted together by thick lymph. On separating the adhesions the masses of lymph peeled off like rotten wash-leather, leaving freely oozing intestinal walls. Working down with the fingers towards the left brim of the pelvis several ounces (probably about half a pint) of intensely foul, purulent fluid escaped. In one part of the cavity thus opened up two or three small purplish lumps like squeezed-out grapes were noticed, and it was suggested that these were mesenteric glands which had suppurated and burst on to the peritoneal surface and had thus set up the mischief. The abdominal cavity was next flushed out as thoroughly as possible with hot boracic acid solution and afterwards with izal lotion (half an ounce to the pint), the edges of the wound being occasionally held together and the abdominal cavity distended with the solution, the funnel being raised two or three feet. The abdominal wound was now closed in the usual manner for the upper three-fourths, the lower fourth being left open, and a large glass drainage-tube fixed in, reaching to the deepest part of the pelvis. The dressing used then and throughout the subsequent treatment of the case was iodoform powder, cyanide gauze, and salicylic wool, fixed on with a wide muslin bandage, so as to exert moderate compression of the abdomen.

From this time the patient's progress towards recovery was slow but continuous with one exception. Eight days after the operation, the temperature, which had been subnormal, rose to 101° F., the tongue which had been clean and moist, again became dry and furred, and the discharge from the tube became fœtid. The tube was removed, the flushing apparatus was adjusted, and the abdominal cavity was once more thoroughly washed out with izal solution; after this, the left flank which had always remained rather full and tender, soon became softer and free from pain; and subsequently, there was very little discharge from the wound, and that was serous and odourless. The bowels were moved naturally on the third day, and with an enema on the sixth and seventh days after operation. After that with an occasional enema they acted regularly. Before the operation and for several days after alimentation was principally by means of rectal suppositories; but for brevity's sake, details on this and other points are omitted. In consequence of the boy's feeble condition union of the wound was very weak, so that the stitches were left in until they threatened to ulcerate out, and it was necessary to remove them and to support the edges of the wound with strapping. Fortunately the peritoneum had been stitched up separately with a continuous buried suture, so that there was no actual re-opening of the wound. The sinus resulting from the drainage-tube was not completely closed for two months. At that time it was noticed that there was a slight tendency to hernia at the upper part of the cicatrix, so a pad was applied over that part and the abdomen supported with an elastic bandage. The boy was sent to Woolton Convalescent Institution early in September. He was fat and well and free from any abdominal trouble. He came to the hospital on his return from Woolton to be examined. The hernial protrusion was no longer to be observed, but when he coughed the two recti muscles stood out separately from each other; so he will continue to wear the elastic bandage, which he himself applies every morning before getting out of bed. It should be noted that he has been carefully examined and that no trace of tuberculosis can be found, so the case was not one of tuberculous peritonitis.

Remarks by Mr. CHAUNCY PUZEY.—The subject of operative treatment of suppurative peritonitis having been brought forward somewhat prominently of late this case may prove of interest, especially as it presents some unusual features. Most of the cases published have been probably due to mischief about the cæcum or appendix; but in this instance the trouble must have arisen from some other cause, although the meagre history obtainable gave but little clue to its real origin. Still, the successful result of exploratory operation and of thorough flushing of the peritoneum furnishes an additional instance of this comparatively modern method of treatment.

[1] Herrbold: Deutsche Medicinische Wochenschrift, Sept. 27th, 1894.
[2] THE LANCET, Oct. 16th, 1897, p. 1000.

SANITARY CONDITION OF ST. COLUMB MINOR, CORNWALL.—At the meeting of the St. Columb Major District Council, held on Nov. 18th, Dr. J. C. Mackay, the medical officer of health, in reporting upon the village of St. Columb Minor stated "that the sanitary condition of this village is something awful; nothing approaching it exists anywhere else in the district. So far back as 1884 I made a special report, in 1889 reported that the place was only to be compared with a sewage farm, and in 1892 a special complaint was made against the Highway Board for permitting their roads to be converted into a common sewer. The only comment made by your board was, "Query, where"? I have reported adversely on St. Columb Minor at least a score of times, but it still constitutes a danger."

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Discussion on the Prevention of Enteric Fever.

A MEETING of this society was held on Nov. 23rd, the President, Dr. HOWSHIP DICKINSON, being in the chair.

The discussion was opened by Dr. G. V. POORE, who commenced by stating that the contagion of enteric fever is contained in the excreta and may gain access to the bodies of the healthy in drink or food or air. When enteric fever becomes suddenly epidemic it is most often through contamination of the drinking water and sometimes through the water of the milk or other beverages. Short records were given of forty-six instances within the last thirty years of contamination of public water-supplies, and in twenty-nine instances where the figures were given the number of cases amounts to 16,486. These public water-supplies were contaminated either at the source, in their course, or at the periphery. Of the contaminated sources eight were streams and rivers, eleven were wells, and three were upland gathering grounds. Of the polluted wells seven were deep wells in the chalk. These chalk wells were polluted by leakage from a sewer (2), by accidental defilement of an adit (1), by the tricklings from the surface of an adjacent sewage farm (1), by back flow from a river (1), and by leakages from foul ponds and cesspools (2). Those sources of water which are farthest removed from dense populations are probably safest, but moorland waters are not free from risks; some of them act unduly upon lead; and it is interesting that Glasgow in 1881–90 had a mortality from enteric fever slightly higher than the average for England and Wales. Given the fact of contamination, wells and springs are dangerous because there is no escape for the polluting matter except into the supply-pipes. Water from uplands has undergone no filtration before reaching reservoirs. In rivers we get the advantage of oxidisation and sunlight, and only a small proportion of polluting matter at most is likely to be taken up. With regard to pollution in the course, the most common cause is the insuction of foul air or liquid by leaking water-pipes during intermissions in the supply. This insuction is especially apt to occur where there is an intermittent supply and the fouling of the water pipes is facilitated by the insanitary practice of laying the sewers and water-pipes side by side inaccessible to observation. Both should be laid in subways so that they could be easily inspected. Pollution at the periphery—i.e., through the taps—is most important. It is liable to occur whenever a tap is left turned on and a vacuum is produced in the supply-pipe by intermission of supply, so that foul gas or liquid or even solids are sucked back into the house pipe or main. An instance of this had been described by the late Sir G. Buchanan. When investigating an outbreak at Croydon he was told that in one house the water tap on certain days yielded blood. This was found to be due to the existence of a slaughter-house next door. At a recent outbreak of enteric fever among the staff of University College Hospital it was found to be due to such aspiration. Alterations had necessitated the fitting up of a temporary dining-room for the nurses and water was required for a sink. The water-supply was taken by the plumber from the nearest pipe, which also supplied the tank in which the linen from some cases of enteric fever had been washed, and some of the infectious material must have been drawn back from this tank and have contaminated the drinking water. This peripheral pollution is well understood and its frequent occurrence raises a doubt whether the abolition of the house cistern does not endanger the purity of the water flowing in the mains. The maintenance of constant pressure in the pipes, although theoretically desirable, is not practically attainable at all times. The liability to peripheral pollution raises the question whether all public supplies are not liable to a certain small extent to automatic pollution. It must be remembered that in big towns there are many foul places other than water-closets over which there may be open taps. A common source of peripheral pollution is the leakage of standpipes (as occurred at Worthing), and the flooding of the street with sewage, as often happens when drains are flooded out by storm water. Public water-supplies must be regarded as causes of the epidemicity of enteric fever. They diffuse the poison with a completeness which is absolute, and ensure that it is "laid on" as it were to our very mouths through being used not only for drinking but also for washing dairy cans, oysters, salads, &c. These epidemics show the danger of "putting too many eggs in the basket," and the necessity of arranging water supplies with as many independent subdivisions as may be feasible and of never mingling supplies from different sources. A staff of chemists and bacteriologists should be maintained by the water companies just as by the large dairies. Water-pipes and sewer-pipes should be placed in subways if possible so as to be open to ready inspection, or one set of pipes should enter at the front of a house and the other leave by the back. To have them running in close proximity and out of sight is attended with obvious danger. Water companies should be made answerable for damage just as are other trading companies and the householder ought to have the right of being supplied by meter. It is impossible to see much increase of safety in handing over water-supplies to the care of public bodies where individual responsibility is non-existent. Our safety lies in vigilance. The notifications of enteric fever should be forwarded at once to the water authorities and the sewer authorities, and the companies should guard their supplies with a constant vigilance such as is exercised by the great dairy companies. Careless or wilful waste of water (when not supplied by meter) should be punishable by fine. Plumbers who attend to drains and sewers ought not to touch water-pipes and cisterns without a complete washing and change of raiment. In the treatment of excreta chemical disinfection is untrustworthy. Burning is the most certain mode of destruction. Enteric excreta should never be mixed with water because it is pre-eminently a water-borne disease and the property of water is to return to its source. This is illustrated by familiar examples, thus: water-closet, sewer, sea, oyster. It is said that sewage is good for our fisheries. At present we have distinct evidence of evil and none of good. Again: water-closet, leaking sewer, chalk well, drinking-water; or water-closet, sewer, river, watercress, drinking-water; or water-closet, leaking sewer, leaking water-pipe, drinking-water; or water-closet, cesspool, shallow well, milk; or (as at Caius College) fæces may be sucked directly from the water-closet into the water-pipes. The great cause of the increase and wide epidemicity of enteric fever in recent years has been the water-closet which was invented by Bramah at the end of the last century. The year 1849, in which the non-identity of typhus fever and typhoid fever was settled by Sir William Jenner, was the year of cholera, the year of the Broad-street pump, the year in which the great fact of water-borne disease was established. The conditions which gave us the great outburst of cholera in 1849, when the Thames was at once our cesspool and our source of water, were eminently calculated to furnish sufficient enteric fever to establish its identity. Dr. William Farr fully recognised that the cholera epidemic of 1849 was attributable to the water-closet, but he hoped that by better management our drinking-water might escape pollution. When water leaks incessantly from one spot (whether it be cesspool or sewer) it soon begins to exercise pressure and may trickle any distance. A drain-pipe or sewer is quite as dangerous for the water-supply as a cesspool. It is probable that the dry privy of our ancestors had a very slight polluting effect upon the soil. In old arrangements each house had its own well in the neighbourhood, and with all its advantages this must have tended to keep the subsoil dry; but the present system of water-supply had, if anything, an opposite effect, and this increased dampness of the soil round houses must not be lost sight of as a factor in the production of disease. Enteric stools in country places may quite safely be applied to the surface of well-tilled soil. They must not be mixed with antiseptics and must not be buried deeply. There is no evidence that fæces treated in this way have ever been productive of harm. Dr. Poore, speaking with an experience of fourteen years, was convinced that fæces cannot be washed out of well-tilled humus by any amount of rain. In such a position the bacilli are almost certainly destroyed, for in tillage they are exposed to air and sunshine. In such a position they are not likely to be eaten or drunk, and there is very little likelihood of their being raised as dust, for they are very hygroscopic. In such a position fæces disappear in a few weeks. A well-tilled humus is probably the most perfect protection to our water-supplies conceivable, as he had set forth at length in his published works. The fact

that the enteric bacillus will live in sterilised soil does not prove that the soil is dangerous when properly managed. The fact that microbes will live in gelatin has merely taught us how to avoid the dangers of gelatinous food, which is as popular as ever. The pollution of the soil in our great towns is due to the incessant soaking, from spilling excess of water and dirty fluids, and from the leakage of subterranean receptacles of liquid filth of all kinds. A thick layer of well-tilled humus was a great protection for deep water-supply. There can be no purity of soil without tillage and organic filth must be placed upon the humus to increase our food-supply and not beneath it to endanger our water-supply. Dr. Poore did not think it at all likely that town populations would hastily abandon their water-closets (in London it seems impossible), but he considered it was time that the people were taught that excreta properly used might be a source of health, wealth, and beauty. This important matter holds no place in our national education. There are no municipal gardens for demonstrating how excreta may increase the attractiveness and prosperity of a district. On the contrary, our populations are silently taught that the only decent (!) way of treating fæces is to mix them with water, to brew sewer gas, and ensure the aerial as well as the aquatic convection of enteric fever. A man who has a house with a quarter of an acre of ground may be perfectly independent of the sanitary authority and may get good water from a private well. But such persons who really try to keep their houses clean and wholesome receive no encouragement in the present state of the sanitary laws.

Professor GAIRDNER (Glasgow) said that his connexion with sanitary duties had been interrupted many years ago and that he had little recent experience. He well remembered an occasion when Murchison brought before that society a paper in which was the germ of the classical treatise on Continued Fevers. The current doctrine at that time was that enteric fever was due to sewer gas. In Glasgow many epidemics had been traced to the milk-supply, and it was found that the milk was brought in from a distance and that the contamination occurred there and not in the city, and therefore Dr. Poore should not contend that the death-rate from enteric fever in Glasgow was associated with the fact that they drew their supply from the moors. He wished to testify, as Dr. Poore had done, to the industry and ability which had been displayed both by the local medical men and the officers of the Local Government Board in tracing the actual cause of the various epidemics. Under the old arrangements the local medical men were afraid to point out insanitary dairies because they would have been liable to troublesome litigation. Now the public official, the medical officer of health, could do so without that risk to the great advantage of the community. Professor Gairdner concluded by mentioning an epidemic which occurred among the students which was at once stopped when the supply of milk at the restaurant within the university was forbidden.

Sir RICHARD THORNE said that he gathered that broadly Dr. Poore regarded as the principal evils our sewers, water-closets, and our system of water-supply, and that the remedies that he would suggest were the general use of dry closets, a return to shallow wells, and the deposition of the excrement on well-tilled soil. It would be gathered from Dr. Poore's remarks that the system of water-supply was fraught with danger to the country. But was this borne out by facts? Since 1875 millions had been spent in this country on works for providing the towns with a water-supply. At the beginning of that period the death-rate from enteric fever was 0·37, and at the present time was only 0·17, showing a great saving of life. Though enteric fever now assumed an epidemic form the total death-rate was much lower than when it was endemic. Dr. Poore had spoken of the death-rate from enteric fever in Glasgow as being somewhat higher than that of other large towns, and had been inclined to attribute it to the fact that Glasgow derived its water-supply from uplands. But the present death-rate should be compared not with that of other large towns but with that of Glasgow before the drawing of water from this source. It then appeared that the annual death-rate from 1865 to 1879 was 510 per 1,000,000, and that during the last ten years it had fallen to 193 per 1,000,000. Dr. Poore had also referred incidentally to the spread of cholera through the water-supply, and no doubt it had occurred. But taking the mortality as a whole, while in old epidemics there were as many as 50,000 deaths, in one under the new conditions there were only 135 deaths. Many of the faults attributed to the system of water-supply were due to defective work, leaky sewers, and badly jointed water-pipes. But it was not just to condemn the whole system because it was imperfectly carried out. He (the speaker) most emphatically agreed that the water companies should be made responsible for the quality of the water that they supplied. But the fault lay with the public, who through their Parliamentary representatives allowed clauses to be inserted into Acts of Parliament which protected the companies. As regards Dr. Poore's remedies he did not see how in the existing state of affairs in urban districts it was possible to adopt the use of dry closets with daily removal of excreta to be used on well-tilled soil in the sight of all, although it might be an ideal arrangement in an Adamic stage of civilisation. Except in certain conditions in country districts he thought that the return to the use of shallow wells, which he understood Dr. Poore to advocate, would be infinitely more dangerous than the present system. It was with such wells that the disease was formerly endemic with a much higher total death-rate than now. As regarded the effect of putting excreta on land he admitted that with thorough tillage there was little risk of water contamination; but how was this to be carried out as a universal system especially in the face of the increasing scarcity of agricultural labour? Besides, although the method might be safe with ordinary dejecta it was yet to be proved that it would be so in the case of specific excreta. Experiments had been made by Dr. Martin for the Local Government Board to try to find the reason for the occasional persistence of enteric fever in a particular locality. He found that typhoid bacilli would only grow for a few days in sterilised virgin soil, but that in soil containing sewage which had been sterilised in a similar manner growth went on for 200 days. It had also been shown by others that in soil containing sewage typhoid bacilli would remain quiescent during the winter and begin to grow rapidly when the warm weather returned. He fully agreed that burning was a safer method than burial for dealing with the excreta. The best plan was to mix them with saw-dust and paraffin and burn them. There were two sides to the question, and while Dr. Poore's suggestions might be carried out in some rural districts he did not think that they were applicable to our present conditions in large towns.

Professor RUBERT BOYCE (Liverpool) desired to put in a strong plea for systematic bacteriological examination as a most important means of preventing epidemics of enteric fever. During the last three years he had been making bacteriological examinations of the various vehicles by which the contagion was conveyed. 1. A sewage bacteriological station was now being arranged for the systematic examination of the contents of the drains. Examinations of the intake and output of the sewage farm were systematically made and compared, and in this way a "flora" of the organisms ordinarily found in sewage was being prepared. Pupils in the engineering department were sent to a course of bacteriology so that they might undertake this work. 2. Constant bacterioscopic investigation of the drinking water. This will lead to the abolition of wells and cisterns for private use. The water must be examined at different points, before and after filtration, in the supply pipes and as it issues from the taps. Systematic observations of this kind would enable any bacterial impurity to be traced and its mode of entrance into the water discovered. 3. Bacterioscopic examination of the milk and milk products such as cream, butter, ice-cream, and cheese. 4. Bacteriological examination of shellfish, oysters, &c. In from one-half to one-third of these the colon bacillus was found in abundance. Dr. Newsholme and others had started bacteriological laboratories in connexion with the department of the medical officer of health, and he hoped that this example would be generally followed.

Dr. D. S. DAVIES (Bristol) gave an interesting account of an epidemic which recently broke out in Clifton. Both Clifton and Bristol had previously enjoyed remarkable immunity from enteric fever, but on Oct. 21st, 1897, the occurrence of some definite cases of enteric fever led Dr. Davies to suspect that the "influenza" which was currently reported to be prevalent might prove to be enteric fever, and on examining many of these cases their blood was found to give the Widal-Grünbaum reaction. Four days' investigation showed that milk was the vehicle of infection and when the milk-supply was cut off the epidemic rapidly

subsided. During the last five weeks the number of notifications were 16, 100, 60, 19, and 10. Charts were shown illustrating the milk-supply. It was clearly shown that most of the cases occurred in houses supplied by one particular dairy. The others occurred in houses supplied from dairies which were in perfect order, but it was found that the distributors from these two dairies were in the habit of supplementing their supply by buying some from the man who was delivering the infected milk. Fifty-seven houses were supplied from the infected dairy and thirty-one of these were attacked. In the case of the other two milk supplies there was a comparatively small quantity of infected milk and the proportion of houses attacked was smaller. One school in which sixty-three persons lived was supplied with the infected milk, but the milk was always scalded and not a single case of enteric fever occurred. In another house a woman attacked was the only one who drank unboiled milk. It was found that the infected milk came from a farm in a village where the brook was utilised as the main sewer. This brook ran through the chief dairy farms and no doubt was the cause of the pollution. The remedy suggested by Dr. Davies for this state of things was an arrangement by which each urban authority might be empowered to inspect, register and license outside dairy farms and farmers who furnish their supplies to the exclusion of unlicensed places and persons. In defau't of some enactment such as this there ought to be a voluntary association of the contractors themselves to coöperate with the sanitary authorities and submit to certain regulations and frequent analyses of the milk and inspection of the dairies.

The further discussion was adjourned until the next meeting of the society.

MEDICAL SOCIETY OF LONDON.

Treatment of Pyo-pneumothorax.—Mechano-therapy of Moveable Kidney.

A MEETING of this society was held on Nov. 22nd, the President, Dr. SANSOM, being in the chair.

Dr. SAMUEL WEST read a paper on a case of Pyo-pneumothorax of some months' duration cured by free incision. The patient, a man, thirty-four years of age, came under observation with left pneumothorax and sero-purulent effusion of four or five months' standing. The patient, who had already been under other treatment for some time, being very ill, incapacitated from work, and getting worse, it was decided to incise the chest rather than perform paracentesis, on the ground that in such cases the results of paracentesis were discouraging, that the patient would evidently die if nothing was done, and that on general principles free incision seemed indicated. The side was opened by a simple incision, about four pints of sero-purulent fluid were removed, and a drainage-tube was inserted. The next day the lung had expanded and was in contact with the chest-walls everywhere except round the incision. The discharge was profuse for a few days and then became very scanty. Within a few days nothing of the pleural cavity was left except the track in which the tube lay. The patient rapidly improved, but the tube could not be got rid of until seven months from the time of the operation. The case had been previously dismissed from another hospital as incurable. As a rule these cases are left alone owing to a belief that the lung is bound down and cannot expand. Cases were quoted and reasons given for not accepting this as the rule or even as frequent. Another false notion is that pneumothorax is generally associated with tuberculous disease of the lung and that it is good for a tuberculous lung to be compressed by air or fluid because the progress of tubercle in it is arrested. This reason, often given, was shown to be an opinion only and not supported by facts. Dr. West reminded the society that the same reasons were formerly also given for leaving serous effusions and empyemata alone; they are not now regarded as valid against the removal of the effusion in these cases and are therefore not valid in pneumothorax. It has also been held that incision does no good but rather hastens the inevitable death. Statistics are often quoted in support of this statement, but they are old statistics and should no more settle the question in pyo-pneumothorax than they would be allowed to settle it in empyema. If empyema were neglected nowadays as long as pyo-pneumothorax usually is the results would be no better; *per contra*, if pyo-pneumothorax comes to be treated on the same general principles as empyema a similar improvement in results may be naturally anticipated. Dr. West considered that incision might become necessary (1) in the early stage if the dyspnœa and symptoms were urgent and not relieved permanently by paracentesis (in this stage the necessity would rarely arise); and (2) in the later stages—(*a*) if no fluid formed incision would never be necessary; (*b*) if the effusion were purulent incision would be the proper mode of treatment and the only one which would offer hope of success; and (*c*) if the effusion were serous incision might become the right mode of treatment as in certain cases of obstinate serous pleurisy. In conclusion pneumothorax should be treated on general common-sense principles, the presence of air not affecting the general principles in any way, but only introducing certain modifications in carrying them into effect.—Dr. DE HAVILLAND HALL said that he was very much interested in the proposal that Dr. West had supported with so much ability to subject cases of pyo-pneumothorax to the same treatment as those of empyema, but he thought that the view taken of the result would prove too sanguine in those cases in which the lung did become firmly bound down and would not re-expand. He mentioned one case of empyema in which this was the case, and although extensive resection of ribs was resorted to the patient ultimately died unrelieved. Such cases were fortunately rare, and he thought that the majority of cases would do well if treated with free incision. One very important factor would be the condition of the lung prior to the occurrence of the pneumothorax and the chances would be very much better for a patient whose lung was fairly healthy, and he did not suppose that Dr. West would suggest operation in cases where the lungs were riddled with cavities. He quoted cases of this kind in which the necropsy showed that operation could not have benefited the patient. He mentioned a case quoted by the late Sir Andrew Clark of a man who for some years came up periodically to have the signs of pyo-pneumothorax demonstrated. During Sir Andrew Clark's absence a colleague had the chest incised, but the result was unsatisfactory and the patient died.—Dr. THOROWGOOD agreed in the main with the proposal to treat these cases on the same lines as cases of empyema, but did not think that there was the same indication for immediate operation, and thought that each must be considered by itself and he would only advise operation if the symptoms were urgent. He was glad that Dr. West had scouted the ridiculous theory that tuberculous disease of the lungs was checked by compression through the presence of fluid in the pleural cavity.—Mr. MARMADUKE SHEILD said that at the request of Dr. Ewart he had operated on a case of pyo-pneumothorax complicating gangrene of the lung. The patient was apparently moribund and the operation was performed as expeditiously as possible and a rapid, unexpected recovery took place. He had also operated in a case in which signs of the presence of fluid and air in the chest had existed for six months. The lung was found to be firmly bound down and a cavity was left which would not close. He did not perform Estlander's operation as he was not favourably impressed with the results. The patient died from exhaustion. Special care was required in these cases in giving the anæsthetic. The unaffected side should be left free and a minimum of anæsthetic used. He made a "trap-door" incision, which enabled him to deal rapidly if necessary with several ribs, and after the operation he preferred not to use a fixed dressing but to employ moveable pads of wood-wool and iodoform gauze on which the patient lay with the incision dependent. The pad could be frequently changed by the nurse and the position of the patient and the absence of a bandage allowed the unaffected lung to have free play. In cases of pneumothorax from traumatism nothing should be done, as the air was almost always absorbed naturally.—Dr. R. L. BOWLES said that the position of the patient during the administration of the anæsthetic was of very great importance. The sound side should be uppermost. Two cases had been recorded by different observers during the last few weeks in THE LANCET in which death occurred in cases of this kind while an anæsthetic was being given. The patient was turned on his sound side to facilitate the operation; dyspnœa suddenly occurred and the patient died, pus having found its way from the pleural cavity through the bronchi and gravitated into the bronchi of the sound lung.—Dr. WEST, in reply, said that in the cases he had referred to the condition had existed for some time and the

symptoms were not urgent. He thought that the moral to be drawn from the result of the operation on Sir Andrew Clark's case was that it should have been performed earlier. He wished to insist that in cases of pleural effusion the lung was not collapsed as often as had been represented and could often be felt to expand when paracentesis was performed.

Dr. SYMONS ECCLES read a paper on the Mechano-therapy of Moveable Kidney. Since the year 1892 twenty-one cases of moveable kidney with local pain and tenderness had come under observation and treatment. Of these, sixteen had been treated by the "rest cure" with special attention to abdominal massage and exercises for periods varying from fourteen days to eight weeks, and of these eight were recorded in detail; seven were lost sight of within four months of treatment. Of these one was a complete failure, but was the only one in which immediate benefit did not follow. Five were greatly improved by abdominal massage, exercises, and the application of a pad and belt; one of these had been free at the present time from all discomfort for five years and another for two years, whereas both had previously suffered from pain and general malaise for prolonged periods. The results obtained in the majority of these cases were so satisfactory that they bore favourable comparison with records of those treated by operation, and in view of certain cases which have occurred there was something left in favour of employing milder means for the relief of nephroptosis than surgical interference involving either nephrorrhaphy or nephrectomy. Early diagnosis, reposition, and the maintenance of the organ in its normal position by methods which also conduce to the improvement of general health would appear to go far towards the relief of a patient from the necessity of having the kidney stitched into its place or removed from the body as the advocates of early operation advised. Sufferers from floating kidney should first be treated by rest, massage, and exercises before they were exposed to risks, which certainly existed, however small they might be rendered by the skill of the operator. The cases for detailed description were selected as typical of the conditions under which nephroptosis occurred in males and females. Most of them were very thin and there was associated ptosis of the stomach and other viscera. As they regained subcutaneous fat the symptoms disappeared and in nearly all the relief was permanent.—The PRESIDENT said that many of the patients in whom a moveable kidney was discovered on palpating the abdomen were quite unaware of the condition, and he thought that it was unwise for the physician to communicate his opinion to the patient as they at once became hypochondriac and the floating kidney became a fixed idea. He thought that it was unusual for marked symptoms to occur if the patient was unaware that his organ was dislocated. If there were severe symptoms Dr. Eccles's plan of treatment offered the least disagreeable way of getting rid of the trouble with which he was acquainted and would be well worth trying.—Dr. DE HAVILLAND HALL said that the patients were not always made neurasthenic by being told the nature of their complaint and mentioned a case in which the converse happened. The patient complained of indefinite abdominal symptoms and was much distressed because none of her advisers could account for them. When told that she had a moveable kidney the mere knowledge that her symptoms were explained gave her so much gratification and so thoroughly set her mind at rest that, although no treatment was adopted beyond the application of a simple pad, her symptoms ceased to be obtrusive and she resumed an active life.—Mr. P. J. FREYER said that he would have liked to have had more details of the mechanical appliances used and of the method of massage employed. He had not seen any cases in which permanent benefit resulted from massage. In one case the patient had been through a severe course of massage before coming to him, but instead of its having favoured the deposit of fat around the kidney he found when operating that there was complete absence of fat.—Dr. ECCLES, in reply, said that he quite agreed with what had been said about keeping the knowledge of the nature of the complaint from the patient. Several of his patients were even now unaware that they had been treated for a moveable kidney. In replacing the kidney the position should be that which many patients instinctively assumed to relieve pain—viz., the patient should lie on the opposite side, flexing the thigh of the same side as the moveable organ acutely on the abdomen and extending the arm of that side above the head.

ÆSCULAPIAN SOCIETY OF LONDON.

Exhibition of Cases and Specimens.—Hypodermic Injection of Cocaine.—Notes on Cases of Traumatic Fracture of the Thigh.—Fatal Secondary Hæmorrhage from the Liver and Perforation of the Gall bladder.

A MEETING of this society was held on Nov. 5th, Dr. B. G. MORISON, President, being in the chair.

Mr. G. ANGUS HUNT showed a man, twenty-seven years of age, who was the subject of Right-sided Enlargement of the Thyroid Gland with marked proptosis and a systolic mitral murmur. The thyroid enlargement had diminished after taking liquor sodii arseniatis in doses increasing up to ten minims three times a day.

The PRESIDENT read a short note on the Hypodermic Injection of Cocaine for the Relief of Pain. The dose employed was one-third of a grain guarded by three minims of liquor strychniæ. He had found this method useful in neuralgia, though generally less effectual than morphia.

Mr. STEPHEN PAGET read notes of the following cases. Case 1. Traumatic Fracture of the Thigh in its Middle Third. A huge extravasation of blood occupied the thigh from the ischium to the knee and the limb was pulseless and distended. The common femoral artery was tied and the thigh was amputated at the hip. A post-mortem examination showed that the superficial femoral artery and its vein were both torn across, the upper and lower ends being widely separated. Case 2. Fatal Secondary Hæmorrhage from the Liver in a boy who had been run over by a van. The primary shock having been recovered from he seemed fairly well. A rise of temperature (103°F.) on the fifth day subsided rapidly. Signs of hæmorrhage appeared on the tenth day and he died. It was afterwards found that the liver was ruptured and extensive effusion of bile had taken place beneath the capsule posteriorly. Case 3. Perforation of the Gall Bladder in a woman, aged sixty-six years, with effusion of bile into the abdominal cavity. The calculi were successfully removed by laparotomy, but the patient succumbed to exhaustion five days later.

The PRESIDENT, for Dr. J. W. HUNT, showed a specimen of Hepatic Abscess. The patient had been invalided home from Brazil on account of diarrhœa which continued to trouble him afterwards. The liver extended as low as the umbilicus. The temperature was never above 100° F. The liver was aspirated on two occasions and a considerable quantity of pus was removed. The abscess subsequently invaded the right lung and proved fatal soon afterwards.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases and Specimens.

A MEETING of this society was held on Nov. 11th, the President, Dr. SINCLAIR WHITE, being in the chair.

Mr. ARCHIBALD YOUNG showed for Mr. PYE-SMITH: (1) an infant with Syphilitic Chancre of the Eyelid; and (2) a large Sarcoma of the Kidney removed by a successful operation.

Mr. SIMEON SNELL introduced the following cases:—Case 1. Double Papillitis following Influenza. The patient was a girl, aged eighteen years. The attack six weeks previously appeared to have been severe and she had been confined to bed for fourteen days. The dimness of sight was noticed whilst she was in bed. Now in each eye the vision equalled $\frac{6}{9}$. Case 2. Conical Cornea in each Eye. The patient, a man, was introduced to illustrate the reflections occasioned by Placido's disc and the exhibitor's disc of radiating lines. Case 3. Embolism of the Central Artery of the Retina. Current was restored by massage. Loss of sight in a middle-aged man occurred suddenly on the 9th inst. at 7 A.M. At 11.30 A.M., when first seen, the retina was bloodless and the arteries were empty. Massage of the globe was adopted and a change in the appearance of the retina was quickly observed. The next day the retinal circulation was apparently re-established; the arteries and veins in all parts carried blood; he could detect fingers.—Mr. SNELL also made some remarks on the Surgical Treatment of High Degrees of Myopia. He had recently operated on eight cases by removal of the crystalline lens. In three instances the patients had undergone operation on both eyes

with most satisfactory results. In each case the patient had returned after the first operation and asked to have the other eye treated in a similar manner. The patient shown was an example. To use his own words, he now saw better than he had ever done before. Myopia of 26 D. in the right and 25 D. in the left eye was after operation reduced to 2·5 D. and 2 D. respectively and vision had risen from $\frac{6}{24}$ to $\frac{6}{6}$.

Dr. GRAY NEWTON related and made remarks upon two anomalous cases of Antipyrin Poisoning which had recently occurred in his practice.

Dr. HUNT showed specimens of Aneurysm of the Innominate Artery, Sarcoma of the Lung and Cancer of the Liver, and read notes of the cases.

Dr. WILKINSON demonstrated a striking case of Associated Movements of the Hands.

Mr. PRIESTLEY showed a child with Congenital Absence of certain Toes and of both Fibulæ.

Mr. ARCHIBALD CUFF showed Surgical instruments.

The PRESIDENT, Mr. SNELL, Dr. SWEETEN, Dr. WILKINSON, Dr. MARTIN, Dr. HUSBAND, Dr. ADDISON, Dr. WADDY, and Dr. BURGESS made remarks on the specimens and cases.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.

President's Address.

A MEETING of this society was held on Nov. 3rd, Dr. CATTLE, President, being in the chair.

The PRESIDENT delivered an address on Medicine during the past Twenty-five Years. He said the great leading characteristic of medicine during this period was its advance by means of the experimental method. The discovery of the antiseptic treatment and the rapid progress of bacteriology were noticed at length. In the injection of the serum of immunised animals it seemed as if there had been found a method full of hope in the treatment of diphtheria and other infective diseases. The discovery of the nature of myxœdema and its treatment by means of thyroid extract had been a brilliant piece of scientific and practical work. The effects of extracts of the other ductless glands were undergoing investigation. The greatest number of new drugs belonged to the classes of hypnotics and antipyretics, but very few of these were of first importance. The tendency to prescribe alcohol in the treatment of disease was certainly declining. In the definition of disease the greatest progress had been made in the differentiation of diseases of the nervous system. The progress in all branches of surgery had been most remarkable, but chiefly in regard to the cavities of the head, the spine, and the abdomen. The modern knowledge of extra-uterine gestation and its relations with pelvic hæmatocele was one of the greatest results of abdominal surgery. Cerebral and spinal tumours and abscesses were not only better diagnosed but could now be cured by surgical interference.

A vote of thanks, proposed by Dr. W. RANSOM and seconded by Dr. POWELL, was carried unanimously.

Infantile Cerebral Degeneration.

A meeting was held on Nov. 17th, Dr. CATTLE, President, being in the chair.

Dr. E. C. KINGDON and Dr. J. S. RISIEN RUSSELL brought forward a paper illustrated by lantern slides on Infantile Cerebral Degeneration with Symmetrical Changes at the Macula. The disease was stated to be rare and often attacked more than one member of the family. Commencing in the early months of infant life by muscular enfeeblement, especially of the neck and back, it progresses to almost complete paralysis and terminates in the death of the patient about the end of the second year. The ophthalmoscopic appearances which are seen early in the disease and persist unchanged during the remainder of life consist of a whitish-grey patch at each macula with a red centre; later optic atrophy supervenes. Microscopic examination of the brain and spinal cord in two cases of the four seen by Dr. Kingdon and Dr. Russell showed marked degeneration of the large pyramidal cells of the cortex of the whole brain with descending degeneration of the cord.

EDINBURGH OBSTETRICAL SOCIETY.

Valedictory Address on the History of Ovariotomy and the Law of Professional Secrecy.—Natural Parturition.—Election of Officers.

A MEETING of this society was held on Nov. 10th, Dr. ALEXANDER BALLANTYNE, the retiring President, being in the chair.

Dr. BALLANTYNE gave his Valedictory Address and referred to the loss the society had sustained by the death of several corresponding and ordinary Fellows, among whom was Dr. George Battey, of Georgia. The extirpation of the ovaries for otherwise incurable disease apparently suggested itself to his mind after the prolonged study of a case of amenorrhœa from absence of the uterus with intense suffering at the menstrual periods, ultimately exhausting the patient and causing death. Hence he conceived the idea that by removing the ovaries he would produce an artificial menopause and by its production relieve or cure the patient. In August, 1872, Dr. Battey removed both ovaries successfully by abdominal section with the result of complete restoration to health. Others established the safety and utility of the operation beyond a doubt. Perhaps now ovaries are removed on comparatively slender pretexts but Dr. Battey emphatically stated that it should only be done as a last resort. "This much," he says, "is due to the dignity of our calling; this much is due to humanity, to decency, and to public morality." In referring to the death of Sir Spencer Wells Dr. Ballantyne gave some account of the development of ovariotomy. A series of cases had been operated upon by the "Father of Ovariotomy," Ephraim McDowell, in the early part of the century. Clay in England began in 1842, and the two Atlees in America—John in 1843 and his more famous brother Washington in 1844. These had continued in the face of all opposition and fought for the existence of the operation before the time Wells began to operate. The American writer Parslee in 1872 stated that of the first three the credit belongs to Clay of having placed the operation of ovariotomy upon a sure foundation. Two years before Wells began Clay had performed the operation 71 times with 75 per cent. of recoveries in his last 31 cases. With this average he ended his career as an ovariotomist after performing the operation 400 times. In 1854 Wells, previously an assistant surgeon in the Royal Navy, was appointed to the Samaritan Hospital and had assisted Baker Brown in his eighth case of ovariotomy. When the Crimean war broke out he was attached to the army and there learned "that a man's abdominal walls might be lacerated with fragments of shell, his intestines protruding and covered with mud, so remaining for several hours, and yet after careful cleansing and accurate closure of the wounds complete recovery was possible." This made him much less afraid of abdominal wounds. This probably led him to visit Clay at Manchester and to be present at one of his operations. He made many inquiries and subsequently corresponded about the operation. He began an operation at the end of 1857, but was apparently dissuaded from going on with it by Baker Brown. In February, 1858, he completed his first ovariotomy. He had plentiful material in London, had the whole field to himself, and was well-known to a professional circle. Like most epoch-making men he was energetic, decided, and combative, ready to grapple with difficulty and to meet opposition. He invited spectators and courted criticism; everything he acquired from observation or got from others he used for perfecting his results. His early cases were not more successful than the early cases of Clay, yet such publicity did he give them and with such power did he advocate the claims of the operation that he compelled men to listen and converted them to his views. It was this rather than any exceptional brilliancy of operating or its results that carried him to the foremost rank of ovariotomists and made him even more than Clay the great apostle of ovariotomy. In his first 150 cases he had 47 deaths. It was, however, for Keith to verify "that this long-despised operation is now the safest of all the great surgical operations." He began in 1866, and in his first 48 cases had only 11 deaths, a result which in some measure prepared the profession for the astounding record of 73 ovariotomies without a death and 97 recoveries out of 100. This attested his marvellous skill as an operator and made his results, according to Sims,

"the wonder and admiration of surgeons all over the world." In referring to one of the meetings held *in camerâ* Dr. Ballantyne discussed the relation of obstetricians and gynæcologists to the law chiefly on the question of professional secrecy. Theoretically, of course, the medical man is constantly under the Hippocratic oath—that facts, medical or otherwise, which he learns from his patient during professional attendance should not be divulged, and the law of this country seems clearly to hold that a secret acquired by a medical man during his attendance upon a patient is the secret of the patient, and therefore that she has a *primâ-facie* right in law to require that her secret should be kept unless it can be shown that there is some paramount reason setting aside that right. The law then so far upholds our old professional rule. Some judges have gone further and have indicated that medical men should *legally* be under this ancient rule with certain exceptions. Thus Judge Buller expressed his regret that the information got from medical men was not privileged. Lord Brougham expressed himself in much the same way, and Chief Justice Best said that the law was hard in itself, of questionable policy, and contrary to that of America and France; while Justice Hawkins in the comparatively recent case of Kitson *v.* Playfair and wife said that there were criminal cases, and he instanced one—that of self-inflicted criminal abortion—where it would be "monstrous cruelty" for the medical man to inform the police; and with regard to those when it was said the medical man should inform the judge might himself in some cases refuse to commit a medical man for contempt in refusing to reveal confidences. The practitioner is therefore evidently in a position of serious doubt. In America and France the law differs from that of this country in so far that it binds the medical man to keep his patient's secret. In America the law binds the professions of the Church, law, and medicine equally. According to this code "the clergyman is prevented from disclosing confessions made to him in his professional character in the course of discipline enjoined by the rules of practice of the religious body to which he belongs. The attorney or counsellor-at-law is not allowed to disclose a communication made by his client to him or his advice given thereon in the course of his professional employment. And a person qualified to practise physic or surgery is not allowed to disclose any information which he acquired in attending a patient in a professional capacity and which was necessary to enable him to act in that capacity." This law recognises that the community needs help for its suffering from these three professions and that it would be wrong to put any obstacle in the way of obtaining it whether guilty or innocent. The revisers of the American law went further by stating that the necessity of the law is even stronger in the case of medical men than with legal advisers. But this law is broken in its administration. Thus Judge Bartlett speaking on the subject of criminal abortion at a meeting of a medical society said: "The rule may be regarded as pretty well settled in this state that the physician is compelled by law to disclose (in the witness box, not voluntarily) what he knows indicating the commission of criminal abortion where the victim of that abortion is dead. Where the patient, however, survives and does not waive her privilege the medical practitioner must keep silent." District-Attorney Backus at the same meeting gave the opinion that a self-attempted abortion should not be disclosed whether the person lived or died, but where it is done by another the medical man should endeavour to procure the consent of the patient to inform even though she survives. In this country the medical man is not privileged, and this opinion has been again confirmed by the answer of counsel to the question of the Royal College of Physicians of London, "Has a medical practitioner any privilege with regard to secrets confided to him in the course of his practice analogous to the privilege as between a solicitor and client or otherwise?" Answer: "We are of opinion that there is no privilege attaching to statements made to a medical practitioner by his patient." Yet we know that should a medical practitioner disclose any fact to a third party which may affect the character of, or cause injury to, the patient he would be liable to an action for defamation of character. In cases of concealment of pregnancy the presumption is that the medical practitioner should inform, and yet why should the law or we be less careful to protect a poor woman who, in the agonies of labour and great distress of mind, allows her child to die than she who has destroyed her child in utero? Then in those cases of pregnancy with abortion in women out of wedlock, or where the wife has been separated for some time, here it is most necessary for the medical man to keep silent in the interest of the patient and for his own protection. Again, in the case of servants about whom the employer is suspicious and thus has sent for the practitioner to tell what is the matter, it has been said that the medical man is the agent of the employer and receives his fee from her and therefore must divulge the condition. But according to law the medical man must have the full permission of the patient to see and prescribe for her and also her permission to tell her employer what she suffers from. In the case of gonorrhœa and syphilis it must not always be taken for granted that a married woman has obtained the disease from her husband, and if not so it would be wrong to expose him to the risk just as much as when the husband is suffering from such a complaint we protect the wife. It is also very difficult to know how to act when such diseases occur in servants and employés, as in these cases the medical man runs the risk of an action at law. In obstetrics the opinion of counsel is "that the law does not forbid the procurement of abortion during pregnancy or the destruction of the child during labour where such destruction is necessary to save the mother." But this is only the opinion of counsel—the law remains; and though the illegality of these operations may not be entertained in the law courts, still "in the event of the death of the mother the medical man exposes himself to a prosecution for a criminal offence." Why, then, should the law not be amended to run as it does in the penal code of the State of New York? "A person who with intent thereby to procure the miscarriage of a woman, unless the same is necessary to preserve the life of the woman or of the child with whom she is pregnant, is guilty of abortion," &c. The alteration of our law should be made a matter for serious consideration; the law should emphasise in a decided way a patient's legal right of privileges which she only can waive except in certain cases and these the law should carefully define.

The SECRETARY, on behalf of Dr. C. F. PONDER, of Kalimpong, read a paper on Natural Parturition with a description of a new instrument the Vector.

The following office-bearers were elected for the ensuing session:—President: Dr. J. Halliday Croom. Vice-Presidents—Senior: Dr. R. Milne Murray; Junior: Dr. N. T. Brewis. Treasurer: Dr. W. Craig. Secretaries: Dr. J. Haig Ferguson and Dr. W. Fordyce. Librarian: Dr. R. Milne Murray. Editor of Transactions: Dr. J. W. Ballantyne. Members of Council: Dr. J. B. Buist, Dr. W. N. Elder, Dr. J. R. Hamilton (Hawick), Dr. Fraser Wright, Professor A. R. Simpson, Dr. Melville Dunlop, Dr. F. W. N. Haultain, and Dr. Alexander Ballantyne (Dalkeith).

BIRKENHEAD MEDICAL SOCIETY.—The first meeting of the current session was held on Nov. 12th, Dr. R. Sydney Marsden, President, in the chair. Mr. Wm. Dalzell, M.A., M.B., C.M. Edin., was elected a member of the society. The President delivered the inaugural address, entitled, "Preventive Medicine in Relation to the Psychical and Hereditary Elements in Disease." Dr. A. C. E. Harris, J.P., moved, and Dr. James Lambert seconded, a vote of thanks to the President for his address. Dr. Marsden replied, and the society adjourned. There was a large attendance of members.

UNIVERSITY COLLEGE, BRISTOL.—The annual meeting of the Governors of University College, Bristol, was held on Nov. 17th under the presidency of the Bishop of Hereford. The report alluded to the loss which the College had sustained by the death of Professor Greig Smith and recorded their appreciation of his able services in the medical department. Professor J. E. Shaw has been appointed a representative of the Faculty of Medicine upon the council. There were 583 students during the session, an increase of 60 over the previous year. The financial statement showed that the total expenditure of the College was £6290 and the income £5272, leaving a deficiency of £1018.—The Company of Clothworkers have offered to contribute the sum of £100 per annum towards the funds of the College for a further period of five years.—In addition to the Science Scholarship of the annual value of £150, given by H.M. Commissioners, tenable for two years, Mr. George Brebner has given a botanical research scholarship of £20 per annum and the Bristol Chamber of Commerce one of the value of £20 for the encouragement of the study of the metric system. An engineering works' scholarship has also been offered.

Reviews and Notices of Books.

The Practitioner's Handbook of Treatment. By the late J. MILNER FOTHERGILL, M.D., M.R.C.P. Fourth edition. Edited and in great part re-written by WILLIAM MURRELL, M.D. Brux., F.R.C.P. Lond., Physician to and Lecturer on Pharmacology and Therapeutics at the Westminster Hospital. London: Macmillan and Co. 1897. Pp. 683. Price 15*s*.

THE first edition of this work appeared in 1876 and in its three editions was well known throughout the whole medical world. In bringing out a fourth edition Dr. Murrell has retained very successfully Dr. Fothergill's original design and his characteristic style, although the enormous progress in all departments of medicine during the ten years that have elapsed since the third edition was published has necessitated considerable additions and a thorough revision of the work. This is well shown in the first chapter, where an interesting review of the more recent advances in the methods of treatment and diagnosis will be found.

The first subject considered is Assimilation, and under this head we find the physiology of food and digestion considered in so far as is necessary for the complete comprehension of the *rationale* of therapeutic measures. Amongst other classes of drugs hæmatinics receive a large share of attention, and we would especially draw the reader's notice to the remarks on the administration of iron, which is regarded as "rather a food than as a medicine." Chapter III. deals with Excretion. The portion devoted to physiology is here again well worth perusal teeming as it is with therapeutic hints. In this chapter uræmia and its treatment are considered, the compensatory action of organs are pointed out, and an important class of drugs is described, the alteratives. "Their action may be silent and imperceptible, their mode of influence may be unknown, but their therapeutic effects are among the most assured of clinical facts." In Chapter IV. Body Heat and Fever are discussed and we naturally find described the effects of high temperature on tissues and on the brain, and the various means for reducing temperatures. Inflammation and its varieties are described in Chapter V., and Anæmia, Plethora, and Congestion in Chapter VI.

Growth and Decay form an interesting section, Dr. Fothergill's charming style of writing being particularly noticeable in the paragraphs on Decay, and the indications for treatment in the ailments of advanced life.

There may be found some who will not altogether agree with the remarks found in Chapter VIII. — Abnormal Growths; some of the expressions used may at first sound strange, but further thought will show that there is much sound reasoning in them. For instance, in speaking of tubercle the following sentence is employed: "The greatest danger for the majority of consumptives is that they are apt to become tuberculous," the meaning of which is that although the writer fully acknowledges the tubercle bacillus as an essential part of the tuberculous process, yet there is a second etiological factor with which as yet we are imperfectly acquainted. Chapter IX. deals with Blood Poisons and Specific Poisons—namely, septicæmia, sapræmia, pyæmia, and the specific fevers. This section is quite up to date, all the more recent scientific discoveries being introduced. Acute and Chronic Disease is the subject of the next chapter, giving, amongst other forms requiring treatment, those of hæmorrhage, syncope, and asphyxia. The theory of stimulants also receives considerable attention. In Chapter XI. the treatment of Diabetes, Rheumatism, and Gout is found. The remarks on diabetes are particularly instructive. The matter of diet is shown to be all important, but the writer sounds a warning note against too rigid rules. "The dietary of diabetic patients is not to be laid down by rule of thumb. If the patient wastes on any dietary, then that dietary should be altered. Wasting is the index for treatment rather than the amount of sugar in the urine."

"Great importance has ever been attached to that acquaintance with families and individuals which is summed up as 'knowing their constitution.'" Such are the opening words of the chapter on Diatheses and Cachexiæ, in which much interesting reading will be found. Action and Inaction is the heading of the next chapter and the various forms of narcotics occupy its greater portion. Chapter XIV. deals with the various methods employed in the treatment of disorders of the Circulatory System, and Chapter XV. with those of the Respiratory System, but this latter seems to us to scarcely reach the high standard of the rest of the work. The treatment of Disorders of the Digestive System, however, is excellently set forth and will be read with advantage both by practitioners and students. We consider Chapter XVII., on the Urinary System, one of the best in the book, the remarks on albuminuria and chronic renal changes being especially noteworthy. Chapters XVIII. and XIX. deal with the Reproductive System and the Cutaneous System respectively. The Lymphatic and Nervous Systems are considered subsequently.

The remaining chapters are devoted to Public and Private Hygiene, Food in Health and in Ill-health, the Dietary in Acute Disease and Mal-assimilation, the Management of Convalescence, and finally, the Medical Man at the Bedside. The last named we strongly recommend to the notice of the young practitioner. In it he will find most useful hints as to the management of patients as individuals, instruction on which point is so often neglected in the ordinary curriculum. Taking the book as a whole we cordially recommend its perusal to the student and busy practitioner, to the one as a text-book and to the other as a work of reference.

A Treatise on Obstetrics for Students and Practitioners. By EDWARD E. DAVIS, A.M., M.D., Professor of Obstetrics and Diseases of Infancy in the Philadelphia Polyclinic, &c. Illustrated with 217 Engravings and 30 Plates in colours and monochrome. Edinburgh and London: Young J. Pentland. 1897.

THE author's aim in preparing the volume before us has been "to furnish to the student a text-book and to the practitioner a work of reference in which both the science and the art of obstetrics should be fully set forth in accordance with the most modern results of investigation and experience." We think that on the whole the author has succeeded in accomplishing his purpose. On the all-important subject of antiseptics nothing could be better than the following direction for disinfecting the hands prior to making a vaginal examination: "The attendant must scrub his hands thoroughly with soap and hot water, using a nailbrush; then rinse them thoroughly in hot water, and then scrub them in bichloride of mercury solution 1 in 1000." We quite agree, too, with the author's view that "no lubricant is required in normal cases for the finger, for the increased secretion of mucus renders this unnecessary." We notice that in describing normal labour, speaking of the removal of the placenta, he says, "It may then be grasped by the fingers and gently removed, care being taken not to tear the membranes." But we see no direction to twist the membranes into a rope which is a precaution usually adopted to attain the end in view. Curiously, there appears to be no mention of accidental hæmorrhage under that name either in the chapter on Hæmorrhage or in the Index; concealed hæmorrhage is described, also post-partum hæmorrhage and hæmorrhage due

to placenta prævia, in one chapter. We think that students would have a clearer idea of the matter if these hæmorrhages were described in separate sections. As regards the treatment of post-partum hæmorrhage, which is for the most part clearly given, we think the statement that "the uterine and ovarian arteries may also be ligated by abdominal section, followed by hysterectomy at the junction of the fundus and cervix" should for the benefit of the student be qualified by saying that such a measure can hardly ever be necessary, as we venture to think there is no obstetrician of eminence in this country who has ever found it requisite to perform the operation. There are many good illustrations, the least successful from the point of view of teaching being, as usual in matters of the kind, those derived from actual photographs. Thus on p. 226 there is a photograph showing the patient's buttocks and the shirtsleeves and hands of the obstetrician and his assistant the inspection of which, in our opinion, really teaches nothing. There is a section on Infancy in Health and Disease and one on the Jurisprudence of Obstetrics; there is also a good account of Symphysiotomy. The work is well worthy of careful perusal.

Ringworm and Alopecia Areata: their Pathology, Diagnosis, and Treatment. By H. ALDERSMITH, M.B Lond., F.R.C.S. Fourth edition. London: H. K. Lewis. 1897. Price 10*s.* 6*d.*

THIS edition, the author tells us, has been re-written, but unfortunately it has also been enlarged by one-half as much again as the third edition, and now forms an octavo volume of 327 pages. Although no doubt the researches of Sabouraud and those who have worked on the same lines required that the work should be recast the subject scarcely necessitated so much enlargement, and in future editions by compression and avoiding repetitions which are somewhat numerous a reduction in the amount of print could easily be made without sacrificing valuable matter. The work contains a clear and succinct account of the new observations on the plurality of the fungi which produce the clinical groups of affections classed under the term "ringworm," and the author sets forth impartially the views of others and shows how far Sabouraud's work has been confirmed by the English workers—Adamson, Fox and Blaxall, Leslie Roberts, &c.—and in what points his deductions must be refuted or modified. Much work has also been done in Germany and Italy on the subject, but of this we do not hear from the author; his own views, however, founded on clinical and microscopical observations are rightly and clearly given.

On various points of treatment Dr. Aldersmith's wide experience enables him to speak with authority, and his trials of the latest specifics will save others from wasting valuable time in going over the same ground. Thus of formalin he tells us that in three-fourths of the cases in which he has used it he has had to give it up either from its being a failure after from six to nine applications or because the parents would not allow it to be continued on account of the pain produced by it. He justly remarks that more rapid cures are not to be expected from new parasiticides, but from improved methods of their application.

On the subject of Alopecia Areata the author is strongly in favour of a neurotic theory to explain all the cases, a view which is losing rather than gaining ground. He quotes freely, however, from authors on both sides. We must protest against his frequent use of the generic term "alopecia" for baldness from all causes as if it were synonymous with "alopecia areata." Possibly this may be due only to carelessness but it is an inaccuracy which should be avoided.

Whilst dermatologists will not find in the work information with which they are not already familiar those who are less expert may rely upon its being a clear and readable exposition of the present knowledge of the subject. The new illustrations and other portions of the publisher's task are well done.

LIBRARY TABLE.

St. Thomas's Hospital Reports. New Series. Edited by Dr. T. D. ACLAND and Mr. BERNARD PITTS. Vol. XXIV. London: J. & A. Churchill. 1897. Price 8*s.* 6*d.*—We are pleased to see the reports of this large hospital, as these volumes always contain much of interest to the profession. The first part of this volume which consists of papers on various subjects is perhaps less full than usual; we miss the names of many who generally supply contributions. There are, however, some papers which will repay perusal and be useful for reference. Amongst these we may mention one by Mr. Makins on Three Cases of Injury to the Abdominal Viscera; on Treatment of Fracture of the Patella (both early and late) by Operation, by Mr. H. H. Clutton; on Some of the Rarer Forms of Tuberculous Disease of the Knee-joint, by Mr. H. B. Robinson; on the Displacements which occur after Tuberculous Disease of the Knee-joint in Children, by Mr. T. H. Kellock; and on the Occurrence of Relapse in the Specific Fevers, by Dr. F. F. Caiger. There are also contributions from Dr. F. R. Walters, on Osteo-arthropathy and its Relationships, and a Case of Hyperplastic Osteo-arthritis or Pulmonary Hypertrophic Osteo-arthropathy of Marie; and another one from Dr. Cory—Notes on the Examination of the Bodies of Fifty-eight Children Born Dead or Shortly Dying (third series). A reprint is also made of a paper by the late George Rainey on the Artificial Production of Certain Organic Forms and the Manner in which they are Produced, and to this there is an introduction by Mr. W. W. Wagstaffe. There is much valuable information in the carefully compiled medical report for which Dr. C. R. Box is responsible, especially in the tables appended to the body of the report. During the year 1895, the antitoxin treatment of diphtheria was adopted in every case and was commenced immediately after admission. The result is shown as follows: 111 patients of all ages show a mortality of 23·42 per cent. In 1894 the mortality-rate of the cases not treated with antitoxin was 40·56 per cent. and the average rate of mortality for the ten years preceding 1895 equalled 49·8 per cent., whilst the percentage requiring tracheotomy was 87·93 in 1895 and 91·37 in 1894—of these the percentage of deaths was 37·25 in 1895 and 66·03 in 1894. Another point which is brought out by these tables is that the diminution of mortality in 1895 was accompanied by a considerable increase in the incidence of complications—albuminuria, nephritis, paralysis, and broncho-pneumonia. There were 64 cases of typhoid fever under treatment with a mortality of 12·5 per cent., the deaths being the result of exhaustion and cardiac failure in seven out of the eight cases. The surgical report, written by Mr. C. S. Wallace, shows also proofs of careful compilation. We are struck with the amount of space devoted to a consideration of cases of disease of the digestive tract in the special tables. They are, however, interesting and their value amply compensates for the amount of space taken up, more especially as the table of radical cure of hernia no longer appears. The other reports are as follows: that of the Obstetrical Department, by Dr. Cory; of the In-patient Department for Diseases of Women, by Dr. W. H. Tate; of the Ophthalmic Department, by Mr. H. G. Toombs; of the Department for Diseases of the Skin, by Mr. A. H. Payan Dawnay; of the Department for Diseases of the Throat, by Mr. Stabb; and of the Electrical Department, by Dr. H. G. Turney.

The Nurse's Handbook of Cookery. By E. M. WORSNOP, assisted by M. C. BLAIR. London: Adam and Charles Black. 1897. Pp. 106. Price 1*s.* 6*d.*—In this little work there will be found plain and clear directions for the

preparation of a great variety of foods suitable for both sick persons and convalescents, the dishes varying from beef-tea, mutton-tea, and peptonised articles, to such delicacies as roast pheasants, baked sweetbreads, boiled tongue, omelettes, &c. There is an introduction in which the ability of the author is vouched for by the superintendent of cookery to the London School Board.

The Surgical Diseases of Children. By EDMUND OWEN, M.B. Lond., F.R.C.S. Eng., Senior Surgeon to the Hospital for Sick Children, Great Ormond-street; Senior Surgeon to, and Lecturer on Surgery at, St. Mary's Hospital, London. Illustrated with 5 Chromo-lithographs and 120 Engravings. Third Edition, revised and enlarged. London, Paris, and Melbourne: Cassell and Co. 1897. Pp. 504 Price 21*s.*—This new edition is an improvement in several ways on the first and second editions, and in its present state the work is a good introduction to the study of surgical diseases as they appear in children; but it is not, and is probably not intended to be, a complete treatise on the surgery of childhood. In the description of the treatment of a case of diphtheria we find the following sentences: "The fumes of burning sulphur with steam are the best general disinfectant for rooms and clothing. Indeed, the periodical burning of sulphur in the sick-room is expedient; children are but little irritated by the fumes." From the first half of this extract we do not dissent, but the second half is surely erroneous. Will sulphurous fumes which do not irritate the child prove very destructive to the bacillus diphtheriæ? The practice can have no real value and is on a par with the popular custom of placing in the sick-room saucers containing Condy's fluid. With Mr. Owen's remarks on craniotomy for microcephalic idiots we cordially agree. The operation was, indeed, a failure; in many cases it was rapidly fatal, and in those in which the patient survived the operation the mental improvement was extremely doubtful. A very good skiagram is given of a tuberculous hip (p. 424); it was taken by Dr. Macintyre, of Glasgow.

JOURNALS.

Heilstätten-Korrespondenz (Sanatorium News). Organ of the German Central Committee for the Providing of Establishments for the Treatment of Diseases of the Lungs. Under the direction of Dr. GOTTHOLD PANNWITZ, Business Manager of the Central Committee. No. 2. Berlin, Nov. 1st, 1897. First year of publication.—The following is from the current number of this journal: "Ever-widening circles take a lively interest in the systematic struggle against phthisis as it is carried on in Germany by the providing of adequate sanatoria for pulmonary cases, more particularly in connexion with institutions for invalids and for the insurance of old age pensions. In order to make the experience that has been gained in this department accessible to the public at large as well as in order to obtain due appreciation of the literature that has been collected on the subject the German Central Committee for the providing of Establishments for the Treatment of Diseases of the Lungs has determined to issue a *Heilstätten-Korrespondenz (Sanatorium News)*, reprints from which are on request willingly sent to newspaper offices free of charge. Application should be made to the business manager, 19 and 20, Klopstockstrasse, Berlin, N.W."

The Journal of Balneology and Climatology. Vol. I., Part 4. London: John Bale, Sons, and Danielsson, Limited. Price 2*s.*—This part marks the completion of the first volume of the official journal of the British Balneological and Climatological Society, a society which is doing good work in calling attention to our own health resorts, in furthering their improvement, and in establishing intercommunication between British medical men generally and the practitioners who reside at the various British health resorts. "The Climate of the Dwelling House," by Dr. Poore, sounds a very necessary note of warning as to the futility of sending persons abroad to climates other than their own where, although the right conditions as to altitude, soil, sunlight, temperature, humidity, &c., may prevail, the air is impure. In this case "climatic treatment becomes a solemn and expensive farce." "Which of us," says Dr. Poore, "has not experienced the pleasure after a long day's tramp of descending through some valley of exquisite beauty to the village containing the hotel which is to afford dinner and a night's rest? We see our earthly paradise nestling far below—a dream of loveliness—but 'tis distance lends enchantment to the view,' and arrived at our destination the eyes have been quickly disillusioned by the nose." Pure air is, we know, an important factor in health, and an active cause in producing impurity is overcrowding whether in cities, towns, or individual places of residence. Hotels are especially liable to this cause, and in addition the elaborate decorations of the interiors in many cases while pleasing to the eye act as dust traps which accumulate germs of all kinds. Dr. Poore instances the mediæval colleges as seen at Oxford and Cambridge as excellent models which the modern hotel architect might adopt. "They have as a rule ample curtilage, the public rooms are big and often in a building distinct from the living rooms, while the living rooms are quiet and connected with the public rooms by cloisters and covered ways." The article concludes with a plea for better food for invalids at some of the table d'hôtes. "In many hotels, especially in cheap 'pensions,' the feeding is execrable. It is meretricious rather than nutritious, and consists of dabs of disguised garbage to which absurd names are given by ignorant 'chefs' whose only knowledge of cooking consists of opening 'tins.'" Dr. Prosser James contributes an academic paper on the Earliest Recorded Discovery of Thermal Springs. Articles on Helouan-les-Bains, on the Claims of British Resorts with some remarks on Malvern as a Health Resort, and on the Royal Baths at Harrogate will be perused with interest.

Scottish Medical and Surgical Journal.—Four of the articles this month are highly instructive clinical records—namely, the contributions by Dr. Alexander Patterson (Glasgow), on Surgical Reminiscences, including Eighteen Years' Work in the Western Infirmary; by Dr. Byrom Bramwell (Edinburgh), on Cerebral Cases of Unusual Interest; by Dr. A. H. Freeland Barbour (Edinburgh), on Vaginal Hysterectomy by Doyen's Method, with Six Successful Cases; and by Dr. James Carmichael (Edinburgh), on Basal Meningitis. Dr. J. A. Kynoch (Dundee) describes a case of Tuberculosis of the Placenta, and Dr. J. W. Ballantyne writes on Transposition of the Viscera and collects the literature on the subject from 1894 to 1897 inclusive.

Edinburgh Medical Journal.—The opening paper deals with the Hepatic Complications of Typhoid Fever, the author being Professor William Osler, of Johns Hopkins University, Baltimore. The complications described are focal neuroses, jaundice, abscess, the presence of typhoid bacilli in the gall-bladder, the occurrence of acute cholecystitis and cholangitis, and the relation of typhoid fever to gall-stones. He records a case in which Eberth's bacillus was found at a cholecystotomy, although there were no symptoms of typhoid fever. Mr. W. Roger Williams brings forward arguments against the view that cancer is a "morbus miseriæ." The "Medico-legal Notes," by Mr. H. Nelson Hardy and Mr. F. W. Lowndes, contain much salutary advice in reference to the examination of unwilling persons, especially in cases of suspected pregnancy. Altogether there are nine original articles.

THE LANCET.

LONDON: SATURDAY, NOVEMBER 27, 1897.

THE General Medical Council has done one very considerable piece of business during the session which commenced last Tuesday. It resolved with practical unanimity to make a departure in the statement of its objections to the employment of unqualified assistants. The departure consisted in stating clearly that henceforth the employment of an unqualified assistant, except in the form of a pupil, will be apt to be considered by the Council as "infamous conduct in a professional respect," to be punished by removal from the Register. Perhaps a little more time might have been given with advantage to the shape in which the future intentions of the Council were announced and to making clearer the precise nature of the offence which it is proposed in the future to regard so seriously. The language of the new notice makes of it an amplification of the resolutions passed on several occasions already by the Council in condemnation of the employment of unqualified assistants, and it practically makes it an offence to use the services of any unqualified person save such as may be rendered by a pupil to a general practitioner or in a hospital by dressers and clerks to the members of the senior or junior staffs. But the position of the pupil towards the general practitioner is different to his position towards the hospital officer. In the view of the General Medical Council, a body made up predominantly of medical teachers and examiners or of gentlemen representing the teaching and examining bodies of the profession, a general practitioner can only be allowed to have as assistant a pupil for a period of six months in the last or fifth year of his medical curriculum. A junior student is not eligible to assist the general practitioner, nor is the senior student eligible, we suppose, for a longer period than six months. These restrictions may be taken to reflect upon teachers and examiners as much as upon the general practitioner, for they would seem to imply that those who teach and examine medical men have but a small faith in their work, so that they cannot trust (except in a very limited manner) their former charges to transmit to others the lessons they have learnt. Be this as it may, it is not clear from the language of the Council whether a medical man will be allowed to keep a pupil for a longer period than six months without incurring the risk of employing an unqualified assistant.

We do not labour this point for it is quite clear that abuse might arise—nay, it is well known that it has arisen—from the employment of senior students as assistants, but the position of the Council requires exact definition in the interest of employer and employé alike, and this brings us to a point that will be likely, judging from the discussion in the Council, to influence the Council in estimating whether a person employed by a registered practitioner in connexion with his professional practice is an assistant or a pupil. It seems that if the principal pays, the individual employed will be apt to be regarded as an unqualified assistant; while if the payment is the other way round, he will be regarded as a *bonâ fide* pupil. This is a question which is not settled by the language of the Council and which we would urge must and should be settled. For if such points are left in dubiety the profession will be harassed on a large scale by prosecutions which will often end in failure and the funds of the Council will be drained to no purpose. We are no apologists for the employment of unqualified assistants—we are too well aware of the evil that has in some places arisen in this way—but the practice is too old and has been too much connived at by the General Medical Council for it to be abolished with a stroke of the pen. In particular is it necessary that the stroke be unmistakable in meaning. The past action of the Council has only touched the surface of the evil. It has had reference to gross covering or gross misuse of unqualified assistants. The practitioners offending or found guilty of "infamous conduct" for such offences have been comparatively few; probably not fifty in all. The offence created by the action of the Council this week is practised by hundreds of medical men, probably by thousands. Before a sense of ill-doing can be effectually brought home to them the intentions of the Council must be stated with much more detail and precision than as yet they have been.

Of the main decision of the Council we entirely approve. It is a complete anachronism that half or a third of the work of the medical profession should be done by persons who are not in any sense of the word medical practitioners. Such an arrangement is deceptive as regards the public who think they are getting the advice of qualified persons, and it is grossly unjust towards young practitioners who should find their first and most valuable work in the field of private practice under the supervision of an intelligent and experienced principal. The General Medical Council is doing its duty by legislating for the suppression of all inferior and unqualified forms of practice and all who have the interests of the medical profession at heart will recognise this and applaud its action. But we would beg the Council to make its views very clear indeed, otherwise not only will much irritation be caused but actual injustice will be done.

THE mere mention of the Muzzling Order at the present time seems to excite general attention and bring out a variety of suggestions, so that when the subject was alluded to before a political meeting by the Right Hon. WALTER LONG, who holds the important and responsible post of Minister of Agriculture, it was to be expected that the daily press and the public would freely comment upon his words. Both have done so and the views elicited have been many and divergent, but there can be only one opinion for sensible citizens as to the value of the Muzzling Order as a whole, however open certain details in its working may be to criticism. In the course of his speech before a Conservative meeting at Bournemouth last week Mr. LONG mentioned certain facts which prove incontestably the beneficial effect which has

already followed the measures recently adopted for the stamping-out of rabies. The right honourable gentleman stated that in Lancashire and the West Riding of Yorkshire there were 446 outbreaks for the year ending Nov. 19th, 1894, whilst during the same time in 1897 (when the Muzzling Order was in force) there were only 37; of these 24 were in the early part of the year, as since July the West Riding had been quite free and Lancashire had only reported 3 cases. These figures tally with London figures. In London, for the year ending Nov. 15th, 1896, there were 161 outbreaks, and during the same period of time this year, since the Order has been in force, there have been only 29; in fact, only one outbreak has occurred since August. In the Midland district only 6 cases were reported this year, as against 34 during 1896. In the whole of England the number of cases in 1895 was 608, whereas this year they have been reduced to 141. Again, the Board of Agriculture statistics for the week ending Nov. 13th, 1897, show that not a single outbreak was recorded. These facts speak for themselves, and we seem at the present time to be nearer the desired object of getting rid of rabies than we have been for many years. It is to be hoped that the adverse opinions uttered by the dog-loving public will not in any way influence Mr. LONG in his determination to free us from the risks of such a terrible disease.

Under the intermittent muzzling system there can be no doubt that we should never have got rid of the disease, while as far as the dogs themselves were concerned the objections to the wearing of a muzzle were more marked than they are under present regulations. For under the intermittent system just as the animals had adapted themselves to their altered circumstances the Order was removed and freedom restored; but in a few weeks a fresh outbreak of rabies would cause the re-enforcement of the Order and the dogs would again have to undergo the ordeal of becoming accustomed to their restraint. Intermittent muzzling can only end in failure, and it seems incredible that the lesson has never been learnt before. The rigorous application of the muzzle to a wide area around an infected district, or better still to the whole of Great Britain, for a period of not less than twelve months and stringent rules regarding quarantine and supervision of all imported dogs are the only means by which success can hope to be attained. Having once freed the country it would be necessary that the rules regarding quarantine and supervision of imported animals should be strictly adhered to. In this respect it seems curious that dogs coming from Ireland and the Isle of Man should be exempted; much greater safety would be attained if these two islands were not excepted. That six months is not a sufficient length of time for the continuous application of the muzzle or of quarantine has been demonstrated upon more than one occasion. The period of incubation of the virus in the system is at present known to be indefinite and the order ought to be enforced for at least twelve consecutive months. *One year's strict and universal muzzling might see us free from a terrible pestilence.*

Now that the public have had their outburst of feeling at the indignities put upon their pets, and that the latter have got used to their wire cages, it would be a matter of regret if Mr. LONG returned (and it is quite evident he does not intend so to do) to the half-hearted measures adopted by previous administrators when attempting to grapple with this disease. We sympathise with the troubles of dogs and dog-owners and in particular we dislike the partial working of the Order, but the good that it has done is unquestionably immense. Surely from a humane and common-sense point of view the saving of human lives, even if only comparatively speaking a few, is to be considered as being far more important than the inconvenience caused to the whole canine race, especially as a number of the latter are also saved from a horrible death. Prolonged isolation of a wide ring around infected districts, the compulsory notification and slaughter of all diseased or suspected animals, together with stringent measures regarding the importation of dogs from all parts outside Great Britain are the only means by which the Government can hope to attain complete success in an attempt to stamp out rabies and to keep the country free from the disease. The example of the treatment of cattle plague, and in recent times of pleuro pneumonia, cannot be too closely followed. These diseases are now practically stamped out and if proper measures are adopted there is reason to hope that rabies may be stamped out in the same manner.

ANÆSTHESIA of a sort has been practised from times immemorial, certainly from that convenient legal period "beyond the memory of living man." It was taught by HUMPHRY DAVY in 1799 and again by FARADAY in 1818. The properties of ether were well known to toxicologists and those learned in drugs and ether was inhaled long before MORTON gave his historic demonstration at Boston. HORACE WELLS'S claim to priority—and indeed his use of nitrous oxide gas in 1844 appears to have been the first public demonstration of an anæsthetic—cannot be overlooked. Even in the case of ether it appears that Dr. CRAWFORD LONG employed it as an anæsthetic in 1842. And if MORTON'S name is more prominently associated with ether as being the first to publicly demonstrate its effects SIMPSON'S advocacy of chloroform is at least as interesting. We refrain from entering into the miserable stories of JACKSON, MORTON, and the luckless WELLS; but with SIMPSON we find no self-seeking; all is enthusiasm and eagerness to get ahead with his "wonderful discovery." The long correspondence which he held with BIGELOW when that illustrious man sought to uphold his country's claim to the discovery of anæsthesia—a perfectly legitimate claim and one which SIMPSON had always conceded—never reveals lack of dignity or self-respect.

Dr. DUDLEY BUXTON in his oration to the Society of Anæsthetists, which we print in another column, had other matters to deal with besides chatty disquisitions on the history of his subject. The commanding presence of Dr. JOHN SNOW as a scientific explorer in the field of anæsthesia calls for more than passing comment. It is justly pointed out that no man, not even excepting SNOW'S pupil, friend, and biographer, the late Sir BENJAMIN WARD RICHARDSON, has done so much to make the study of anæsthetics a science as did SNOW. When his lectures on Narcotic Vapours were published men

began to realise that SIMPSON'S simple rules and equally simple physiological knowledge of chloroform left much to be desired. SNOW adopted the experimental method and soon elaborated his theory that the phenomena shown by animals under chloroform are the direct effects of different quantities of the narcotic contained in their blood. He analysed all the cases of death he could lay his hands upon and classed them according to his experimental results. The teaching of SYME appears to have been founded solely upon the practice of SIMPSON, nor does it appear at all certain that beyond a rough and ready plan of using large quantities of the anæsthetic and watching the state of the respiration SYME held any very definite views of his own. Certainly his practice was very successful and probably this fortunate circumstance has led his pupils to invest the surgeon with the credit of a method which undoubtedly belonged, as SYME himself averred, "to Dr. SIMPSON." The importance of the subject and the prominent place it has held in men's minds for the past half century are fully attested by the wealth of research and the mass of literature with which Dr. BUXTON had to deal in making his interesting oration as far as possible exhaustive. The general teaching of the oration may be summed up by saying that chloroform has been proved both by the light of physiological experiment and clinical research to be a highly dangerous body—a drug necessary for the equipment of the surgeon but one demanding the careful handling of responsible and skilled persons. While the earlier labours of BERNARD, BEST, SNOW, and SIBSON carry great weight, yet there can be no doubt that more recent methods have introduced far more exactitude into our knowledge of chloroform.

Whatever views, however, are entertained upon the action of drugs in the schools there is no doubt that the general public care far less about the science than the art. It is, according to Dr. BUXTON, even yet hopeless to expect that any method of giving chloroform will constitute the middle path of safety, "in spite of advertisements of instrument-makers and the assured utterances of doctrinaires"—to give his words. It is no doubt true, as was emphasised in the oration, that the large mass of evidence which has now been collected about the action of anæsthetics has been derived to a great extent from experiments upon the lower animals. And certainly "knowledge casteth out fear," so that we should expect the management of the chloroformed patient to be more exact and more safe now than it was formerly. If the death-rate does not appear to justify such a statement it is, in Dr. BUXTON'S opinion, because the practice of anæsthetics is in too many cases merely a matter of routine and the methods in vogue are too often faulty. If a fuller knowledge of the subject leads to a lessening of empiricism and a recognition of the importance of the scientific study of anæsthesia this celebration of the introduction of chloroform as an anæsthetic will not have caused time and energy to be spent in vain.

RIPON WORKHOUSE INFIRMARY.—The foundation stone of an infirmary in connexion with Ripon workhouse was laid by the Marquis of Ripon on Nov. 11th. The building will accommodate about forty patients.

Annotations.

"Ne quid nimis."

THE ANNUAL MEETING OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE result of the ballot of the Fellows taken in January of this year was so disappointing to those Members of the College of Surgeons who were desirous of direct representation on the Council that an explanation was naturally sought. It may be remembered that at a meeting of the Fellows in January, 1896, a resolution was carried by a very large majority of the Fellows present to the effect that it was desirable to give the Members direct representation on the Council. A not improbable explanation of the antagonistic result of the poll was offered—namely, that the "elucidatory statement" which accompanied the questions to the Fellows was misleading and was not impartially drawn up. This view was expressed in a resolution brought forward at the recent annual meeting of the Fellows and Members; it was introduced by Dr. Thomas Morton in a speech which was at once able and moderate in tone—a very agreeable contrast to the speeches of many Members, who unfortunately employ a vehemence which cannot but be regretted by the best friends of the Members' claims. Dr. Morton pointed out several items of the elucidatory statement in which the arguments advanced by the Members were not correctly represented. Mr. Henry Morris mentioned that on the committee of the Council which drew up the statement were two members of the Council who have always been consistent advocates of the claims of the Members. It was almost too much to expect that an elucidatory statement could be drawn up which should be satisfactory to both parties. At present the adverse vote of the Fellows, although there were more than 400 Fellows who did not vote, bars the way of any extension of the Franchise to Members, and we cannot help thinking that it will be long before any active progress in reform is made. The second resolution before the meeting referred to the claim put forward by the Council in March, 1896, that it represented the Members as well as the Fellows. It was obvious at the time that in the Council's resolution the word "represent" was used in two different meanings, and therefore the resolution could hardly be taken seriously, and the fact that it was carried in the Council by only 11 votes to 8 deprived it of much of the importance it might otherwise have had. The burning question of medical aid associations formed the subject of the third resolution. Of the harm done to general practitioners by these associations no one acquainted with the facts can have any doubt, and they increase in number and extent every day. The Royal College of Physicians of Ireland has uttered a distinct protest against any of its *alumni* associating themselves with such trading bodies, and pronouncements less forcible in tone have been put forth by some other colleges; but the Royal College of Surgeons of England has hitherto contented itself with expressing its willingness to consider any individual case if brought before its notice. The resolution carried at the meeting at the College of Surgeons last week asked the Council to declare that acting as the paid official of one of these associations is "disgraceful in a professional respect." This the Council decline to do, but they reiterate their willingness to investigate particular instances, and we should advise the Society of Members to collect evidence of canvassing for patients by an association employing a

Member of the College. The action of the Council in such a case will be awaited with great interest.

THE LACK OF ACCOMMODATION FOR LUNATICS IN LIVERPOOL WORKHOUSES.

ON more than one occasion attention has been drawn in the columns of THE LANCET to the deficiency of accommodation for pauper lunatics in the Lancashire county asylums as well as in the workhouses of the parish of Liverpool and the West Derby and Toxteth unions, and to the consequent refusal of the workhouses' authorities to receive from the hands of the police persons mentally deranged Last week Mr. T. E. Sampson, the coroner for Liverpool, acting in a magisterial capacity had occasion to allude to the subject from the bench and to deplore this unfortunate state of things. He said that frequently persons were found wandering at large apparently insane and unable to give a coherent account of themselves. The police in the exercise of their duty conveyed such persons to the bridewell, where they were examined by a medical man who, if satisfied of their mental aberration, gave a certificate recommending their admission to the workhouse. Up to a recent period no serious difficulty had arisen, but latterly the authorities of the Mill-road Infirmary of the West Derby Union had declined to receive such cases, stating that they were already full and had no further accommodation. The result was that the unfortunate individuals had to be taken back to the bridewell and dealt with by a magistrate who was thereby placed in a position of great difficulty and perplexity. It appeared to him that something ought to be done by the proper authorities to end this lamentable deadlock, fraught with much danger to the public as well as to the persons afflicted, and to avoid what he feared might develop into a public scandal. Mr. Sampson's prognostications had not long to wait for verification. A few days subsequently, on the 22nd inst., an inquest was held by him touching the death of Alfred Rigby, aged twenty-two years, who died through being run over by a railway train at Sandhills station on the 19th inst. The evidence showed that Rigby, who had been temperate and steady in his habits, had latterly become mentally deranged and that he was taken on the 13th inst. to the Mill-road Infirmary on the recommendation of a medical man to be temporarily detained there with a view to his subsequent removal to an asylum, but owing to lack of accommodation he could not be admitted. Rigby went to see his uncle on the following Friday, nothing further being heard of him until news was received of his having been killed at the station. The evidence of two witnesses pointed to suicide and a verdict to that effect was returned by the jury. The coroner, in his address to the jury, said that he did not blame the workhouse authorities, but that one could not help thinking that if there had been room in the workhouse this young man would probably have been cured of his trouble and his life saved. Mr. Cleaver (the clerk of the West Derby Union, who attended at the inquest on behalf of the guardians) said that the workhouse was considerably overcrowded, lunatics who had been certified for removal to asylums by order of magistrates being compulsorily detained (thereby straining the Act of Parliament) for want of accommodation in the county asylums. If the twenty acute cases had been removed to asylums there would have been a margin for accommodating sixteen cases, so that the deceased would not have been refused admission. He also stated that for the past six or seven years the guardians had been calling attention to the lack of accommodation in the county asylums. All these circumstances truly call for the interfence of the Home Office and the Local Government Board to insure against a recurrence of such a lamentable instance as that recorded above.

THE STATE OF THE STREETS.

WE desire to call the attention of the London vestries, and more especially the vestry of St. Martin, the London County Council, and the Society for the Prevention of Cruelty to Animals, to the disgraceful state of the streets. We are not alluding now to the curse of newsboys, piano organists, and other disturbers of the public peace, but to the sufferings and struggles of horses trying in vain to drag heavy loads over pavements which are abominably greasy and afford no foothold whatever. We have only too frequent opportunities of observing this state of affairs from the windows of this office, and we have no hesitation in saying that the condition of Bedford-street is a disgrace to any civilised city and more than a disgrace to a city which prides herself upon being the first city of the world. Is it a question of money? Rates, as every ratepayer knows, are very high; but if a quarter of the money expended upon free libraries, other than reference libraries, which are chiefly used for those out of work to sit in and consult the advertising columns of the daily press for work and upon the School Board for erecting ridiculously expensive buildings upon the finest site in London and for giving "primary education" in thirty-six different subjects were diverted to making London a decent, clean, and well-swept, cleanly-paved city, money would be saved to horseowners and contractors, to say nothing of the omnibus companies and their shareholders, while the man in the street could drive or walk abroad without being daily harrowed by the sufferings of horses.

THE RECENT GREAT FIRE.

PROPERTY covering four and a half acres has been destroyed at a loss of, speaking roughly, £1,500,000. This is the bill for the last great fire, leaving out of consideration the thousands of hands thrown out of work. In view of the rebuilding which no doubt will be commenced as soon as the area affected is cold enough to make a beginning is it too much to hope that some attention will be paid to the first principles of construction? That fires in the City of London commit the fearful ravages they do is, we are quite certain, entirely due to our abominable modern method of building. The enormous warehouses are mere shells consisting of an iron framework lightly filled in with bricks, a little concrete, and large sheets of glass. When completed the structure is said to be "fire-proof." Of course, glass, iron, brick and concrete are all non-inflammable, but once a fire gains a hold of the very inflammable contents what happens? The iron girders and beams expand with absolutely irresistible force and the whole building collapses. Were the good old style of using solid oak beams to be made compulsory the ruin wrought by expansion would be avoided and the very progress of the fire much delayed. It is, we suppose, hopeless to try to insist that a certain amount of isolation for buildings shall be made obligatory, or at least that the height of a building shall bear some sensible relation to the width of the street that it is in; but we should have thought it would have been cheaper in the long run to leave a little more land vacant than is at present the fashion. Another point to which we wish to draw attention with reference to this particular fire is the fact that nearly all modern silks are grossly adulterated and consequently far more inflammable than pure silk, a fabric which burns with great difficulty. Sophistication is especially common in the case of black silks. Again, it is reported that there was a large gas

main in full blast in the centre of the fire without apparently there being any means of cutting off the supply. We do not see why the gas could not be turned off at various places along the street mains, as is the case with the water pipes. The efforts of the firemen must be seriously hampered by the huge jets of flaring gas, the flames of which are frequently to be seen enveloping inflammable structure which had long been put out only to be ignited afresh. The heat of a big conflagration such as that which recently took place in the neighbourhood of the General Post Office is sufficient to rapidly convert the jet of water from the hose into steam, and steam in contact with glowing charcoal produces inflammable gas—i.e., a mixture of hydrogen and carbon monoxide. Is this, perchance, any explanation of the difficulty of extinguishing the fire of buildings when in the official reports they are described as "well alight"? Water poured upon a glowing mass of embers may thus accentuate rather than stifle the blaze. We wonder that now carbonic acid gas can be obtained compressed in immense quantities in steel cylinders it is not tried, especially in the early stages of the fire, as an adjunct to water which after all is only applied to reduce the ignition temperature and not in any way as a non-supporter of combustion. With reference to the rumour that the supply of water was inadequate Colonel Rotton stated to the London County Council on the 23rd inst. that "there was plenty of water in every place."

PUBLIC HEALTH OF INDIA.

THE *Calcutta Review* for October last contains an article on "The Public Health of India" which calls for some attention on our part. The writer of the paper in question, while freely admitting that the "common sense" of England long ago recognised the immediate value of sanitary improvements in the shape of pure water, fresh air, and the removal of offensive matters from the neighbourhood of dwellings, adds that having opened its pockets to the demands of sanitarians in these respects, it was too much to expect it to give money for the provision and upkeep of laboratories and hygienic institutions the utility and profit of which were not so immediately apparent. It was soon found, however, that modern systems of scientific investigation and experiment led to results capable of being applied to practical hygiene and that these methods could not be neglected without prejudicially affecting the cause of public health and were, moreover, essentially necessary on the part of any country engaged in the contest for hygienic supremacy. As far as England is concerned she has learned this lesson and profited by it, but with India the case is different. All who know that country must acknowledge the great difficulties that have to be encountered there and more especially so at the present time. It has been said that the Indian Government takes a long time to make up its mind to do a thing, but having made it up it generally does it well. The matter is confessedly very important for India, and the need for undertaking and systematically prosecuting scientific inquiries into the causes of numerous diseases of that country is generally recognised. The Indian Government is most probably well aware of this and desirous of encouraging all attempts in this direction, but it nevertheless hesitates to make up its mind or to get any adequate grip of the requirements of the case. What is wanted, as we have said long ago, is the establishment of some really good institutes of public health in India superintended and conducted by a carefully selected staff of properly trained men, furnished with all the necessary appliances for the scientific investigation of disease and the study of hygiene. There should also, we think, be some local system analogous to that which obtains in this country organised at the different stations and cantonments of India for watching the public health and for investigating the facts connected with outbreaks of disease while these are fresh in the recollection of all concerned. The sanitary authority of a district or large cantonment might usefully be composed of a specially selected medical officer associated with an officer of the Public Works or Royal Engineer Services, and their reports might be furnished, together with their practical recommendations, to the principal medical officer of the district or station All questions requiring further scientific or bacteriological investigation might be referred by this or any other local authority to the Public Health Institute for that purpose. It is not merely a collection of statistics that is required, although these should of course be available. The temptation to calculate rather than analyse and to have recourse to a mechanical process in cases demanding a thorough and probably laborious examination is always present, but it is inapplicable and leads to no reliable conclusions. The medical services in India contain a number of young medical officers highly trained in modern methods of research, some of whom have public health diplomas, as well as some older and more experienced officers who have devoted themselves to this class of subjects, and the Indian Government cannot therefore have any difficulty in selecting the proper men for the purpose.

HYSTERIA IN EXCELSIS.

RARELY in the dismal annals of a coroner's court has a sillier or more pitiful story come to light than that related at Acton before Mr. Vere Benson on Nov. 22nd. The inquest was upon the body of a boy named Thomas Linklater, aged fifteen years, an assistant in the Assay Department of the Royal Mint, who committed suicide by taking cyanide of potassium on Nov. 10th. At the inquest William Hubert Antram, on the advice of his solicitor, elected to make a statement. Before doing so he was cautioned by the coroner in the usual way. This statement as reported in the *Times* ran as follows. He said he had known Linklater over twelve months. Early in the year he said something about taking his own life, but he afterwards said he had only been joking. On the Tuesday night before the occurrence he said something about taking poison and asked witness if he would do so. Witness, thinking he was joking, said he would. Linklater said, "You are not in earnest," and witness replied, "I am about as earnest as you are." On bidding him "good-night" Linklater said he was bringing some stuff the following night. The coroner then read the following letter which was found in Linklater's shorthand book: "This is to state I, Thomas Linklater, of Eastbury-grove, do mean to take this evening some prussic acid or cyanide of potassium in a bottle of ginger beer and thus end my miserable existence; and this is also to state that William Antrim, of Cranbrook-road, Chiswick, does mean to do the same. We shall go over into the meadows at about 10 o'clock and take the poison. Signed on Nov. 10, '97.—Thomas Linklater and William Antrim." Antram also told Dr. T. H. Bishop, of Chiswick, that Linklater had taken poison and had been sick. The jury returned a verdict that Linklater had committed suicide by taking cyanide of potassium, but exonerated Antram from aiding or abetting. However, they requested the coroner to censure him for the foolish part he had played. We do not know whether the unhappy Linklater was descended from a neurotic stock, as he probably was, or whether he is one more victim of the absurd system of over-pressure in education which is fostered by the Education Department and the various school boards. The old system of education had its faults but at least it inculcated habits of discipline and obedience. The modern system apparently

does neither if we may judge by the recent reports of free shooting by light-hearted youths in the streets, while the strain it places upon delicate and unwholesomely bred children is often intolerable. So our hospitals are filled with the choreic and broken-down puny child, who sometimes dies, but if restored to comparative health is apt to develop into the unbalanced, weakly-minded adolescent, exhibiting the lack of mental stability which led the unfortunate Linklater to "end his miserable existence."

THE WORKHOUSE INFIRMARY NURSING ASSOCIATION.

THE Executive Committee of the Workhouse Infirmary Nursing Association, 6, Adam-street, Strand, W.C., held a meeting on Oct. 13th, when the following resolutions were passed: 1. "That the Executive Committee, after long and careful consideration, is of opinion that the time has arrived when the work of the Association must of necessity cease for the following reason—the impossibility of adequately meeting by private effort alone the demand for trained nurses in Poor-law infirmaries, under the prevailing conditions, viz., (*a*) inadequate financial support to meet the expenses of training, (*b*) lack of suitable candidates for training; and (*c*) the anomalous position of trained nurses in country workhouses. The committee consider that steps should be taken to urge upon the Local Government Board that the whole question of nursing in Poor-law infirmaries should be undertaken by a State department or should be the subject of a departmental inquiry." 2. "That a meeting should be called in order that the views of the Executive Committee should be laid before the general committee and the subscribers." A meeting will accordingly be held at St. Martin's (small) Town-hall on Dec. 2nd at 3 P.M., when the chair will be taken by Mr. E. Boulnois, M.P. The Association has sustained a heavy loss by the recent death of its president, the much-lamented Duchess of Teck.

HOSPITAL BOARDS AND MEDICAL STAFFS.

THE regrettable incident at the Glasgow Western Infirmary, where the board of management has somewhat arbitrarily deprived an eminent surgeon of nearly one-fourth of the whole number of beds hitherto placed at his service, has opened up a question of some importance to our medical charities. Whatever may be the decision on the special point at issue arrived at by the general meeting of subscribers to that particular institution which is being held as we go to press, there will still remain the question so ably and fully raised by the *Glasgow Herald* of the 17th inst. This question is, What share ought to be taken by the medical staff in the management of a hospital? In the Western Infirmary, as in many other hospitals, the medical staff are practically excluded from the government, and it may not, therefore, be surprising, although it is much to be regretted, that acts are done affecting the privileges and interests of the medical officers in which they have no share. At the same sime it is only fair to state that as a general rule the recommendations of medical staffs are loyally carried out by the lay committees. It is when the initiative in medical matters is taken by the latter that difficulties are apt to arise. It would appear that even in those hospitals where the staff does share in the management the amount of their participation varies within wide limits. In some hospitals every member of the staff is entitled *ex-officio* to a seat on the board of management; in others in order to secure this privilege he must first qualify as a governor; in others, again, two or more delegates or representatives of the staff have seats on the board; and in others there is a kind of dual control — matters affecting finance and general management being directed by a lay board, those concerning the medical affairs by a medical committee, the decisions of which are, however, subject to the approval of the board of management. Now the question as to which plan is most desirable in the interests of the hospital may be fair subject of debate, but surely no one can contend that the medical staff should have no voice at all in the institution to which they give their services, upon which, indeed, its reputation mainly is founded. In the interesting reports published by our contemporary some strong testimony is given in favour of the direct participation of the medical staff in management by those who have had opportunities of contrasting a present system which gives them this share with a past system in which they had no seats on the Board. Their testimony is unanimous in approval of the new régime, which, wherever it has been tried, has been attended with the happiest results. Such a system of joint management appears on the face of it as preferable to the separation of the two elements into two distinct committees, for this latter plan must occasionally lead to misunderstandings that would never arise were the medical staff joined with the lay governors in one board. Theoretically, we believe that the justest course is to admit all the members of the acting honorary staff to seats on the board; but in practice such a plan must in many instances give too preponderating a voice to the medical members. Therefore, on the whole, we think that a certain number of seats on the board of management might well be assigned to members of the staff acting as delegates of the whole body. Were such representation the rule questions such as that which has led to so grievous a conflict in Glasgow and many others of less vital import which from time to time disturb the harmonious working of a hospital might be wholly avoided. There can be no desire on the part of the medical men to interfere in the general and financial management of the institution, but they are deeply interested in all that pertains to the care of the patients and they ought to be in a position to express their views and wishes on all such subjects with the certainty that they will, if feasible, be carried out.

OZONE.

WHETHER ozone plays an important part in the hygiene of nature is a moot point. Pure ozone is unquestionably poisonous. In air which is largely polluted with organic matter, as is the air of London and other large towns, small quantities of ozone cannot obviously live long. It is of course a powerful oxidiser and the oxygen with which it is surcharged is soon absorbed. It is found, however, in distinct quantity in the pure air of the country and, as everybody knows, in sea air. Its occurrence in air is invariably connected with the existence of water generally in motion. Thus the wind blowing over the sea waves or over the waves of a lake or the air in the immediate neighbourhood of a waterfall or spray contains a notable amount of ozone. Of course ozone must to some extent exert a purifying influence upon the air, but this can only be of importance when the ozone occurs in distinct quantity or when it is being constantly evolved, as over the surface of the sea. Doubtless sea air and mountain air owe their beneficial qualities to their purity which in some measure is due to the action of ozone. This fact has led to the devising of apparatus for the simple and easy production of ozone in hospitals and large buildings. It may not be generally known that a very simple and effectual way of bringing ozone into the house consists in first suspending moist linen sheets in a keen dry wind, and afterwards hanging them up in the house. The air in the room will thus become considerably charged with ozone and its presence will be easily detected by its peculiar smell, while a moistened starch iodide paper will instantly turn blue. Why ozone is accumulated in wet clothes in this way

is not quite understood, but it may be due to the rapid passage of the oxygen in air over a large wet surface. It is not improbable that this interesting phenomenon plays an important part in the real hygienic cleansing of our linen articles of clothing. In big laundries when the not quite dry linen is brought in after having been exposed to a cold, dry air for a short time the smell of ozone is almost more than is agreeable.

"SCOTCH HAMS."

IN THE LANCET of Oct. 2nd, 1897, we commented upon the case of some tradesmen who were convicted of selling American hams as Scotch hams and "finest Irish hams" at Richmond, Surrey. A very similar set of cases were heard on Nov. 16th at the South Western Police Court before Mr. Marsham. In the first case Messrs. Frost and Co., of Lavender-hill, were, together with Horace Nice, the shopman, charged with selling an American ham as Scotch. The purchaser asked for a "nice Scotch ham," and Nice supplied him with one which he, Nice, said he had been told to sell as Scotch. As a matter of fact, said the witness, it was an American ham. Mr. Ricketts, in defence, said that there had been no imposition. There was no such thing as a Scotch ham, although this particular ham came from a Scotch firm of curers. Mr. Marsham acquitted the defendants of acting wilfully, but he fined Messrs. Frost £5 and £3 3*s.* costs, and Nice £1 and 2*s.* costs. In the next case Messrs. A. J. Palmer and Co., of High-street, Clapham, and Charles Bowden, their assistant, were charged. Mr. Moore, an inspector of the Bacon Curers' Association, who gave evidence as in the last case, said that Bowden asked him, "What kind of ham—English, Irish, or Scotch?" Moreover, the defendants had a regular price list, in which Scotch hams were priced at 8½*d.* a pound. Messrs. Palmer and Co. were fined £10 and £3 3*s.* costs, and Bowden was mulcted in £1 and 2*s.* costs. As we said in our former article on the subject, the sooner the suggestion of the Select Committee on Food Products Adulteration that offenders should be required to publish at their own expense a notice of their conviction passes into law the better.

HOMES FOR DESTITUTE CHILDREN.

ONE of the most important social questions of our day is what to do with our destitute children. It is important not merely from the point of view of humanity, but the very welfare of the State is bound up in this problem and put shortly the matter divides itself into two heads. Shall we rear a race of lawless, ignorant Ishmaels or shall we bring up children to be disciplined, God-fearing, law-abiding subjects. There are, of course, blackguards in every class of society, but beyond home influence there stands for the upper and upper middle classes the wholesome influence of the public school, and no one will deny that for teaching a boy to know his place, for knocking all nonsense out of him, and for generally fitting him for his work in the world there is nothing like an English public school. Among the lower and lower middle classes no such provision exists. We will not here refer to Board Schools but will confine our remarks to industrial schools, although some of these, in London at any rate, come under the control of the School Board. But the barrack industrial school is a dead failure. Here is discipline, indeed, and too much of it. The children are drilled and guided until they become merely wheels in a machine, and just as one cog-wheel is of no use by itself so the barrack-bred child when turned out into the world is useless. For this in London we pay about 11*s.* 6*d.* per child per week. In some towns however, notably Bradford and Sheffield—we quote from the *Bradford Observer*—the authorities are trying the cottage home system with, at present at any rate, admirable results. First as to the expense; the Bradford figures are not available yet, but the cost at Sheffield comes out at 7*s.* 9*d.* per child per week. The Bradford plan is to have eight children in a home and every home is under the care of a "mother" who is responsible for the care and cleanliness of the children. In these homes the children take part in the house-work, cleaning, cooking, washing, and bread baking, so that they get some idea of how daily wants are supplied and, although they may not be able to speak French or play the piano like the applicants for a shop boy's place mentioned recently in the daily press, they will probably be more useful and more sure of getting work in after life. Of course we do not pretend to consider this system to be as good as a real home, but for the unhappy children who have no home—and there are only too many of them—it seems to us the best hitherto devised. Bradford may well be proud thereof; meanwhile we can only hope that before long the cottage home system will be universal.

THE MOUNTING OF COVER-GLASS PREPARATIONS.

IN the current number of the *Deutsche Medicinische Wochenschrift* Dr. Peter Kaatzer, of Hanover, describes four instruments which he has found particularly useful in the manipulation of cover-glass preparations of objects for the microscope. The principal one is the upright forceps (Stehpincette), some idea of the shape of which as shown in the engraving may be given by supposing the bent part of a pair of sugar-tongs to be flattened and spread out, so that if required they will stand on this part with the points directed upwards. The inner surfaces of the tips of these forceps are roughened and have also one longitudinal groove in each, enabling them to hold a cover-glass either by opposite surfaces or by opposite edges. The spring of the forceps tends to close the points, so that the cover-glasses are held securely and without risk of being broken, and they are released by pressing two knobs which move the tips apart. When the cover-glass is held by the edges, the forceps being in the upright position, it is level and at a convenient distance from the work-table, so that the object may be arranged with needles or spread out as may be desired, or stained, or dried, or heated by holding a lamp under it. For the preliminary examination of objects under low powers he uses trays of black vulcanite three and a half inches in diameter. His needles are not of the usual pattern, but are made of platinum and are scalpel-shaped. For quickly drying an object on a cover-glass at the ordinary temperature he prefers the current of air produced by an indiarubber hand-bellows.

THE DANGERS OF GAS COOKING-STOVES.

IT might be thought that when persons are dealing with coal-gas every precaution would be taken to avoid the risks of accidental ignition of the gas, with probable explosion. That this is not so, however, is clear from the accounts which appear almost day by day in the papers of coal-gas explosions happening through a leak in the pipes, which leak has been sought and found by the aid of a naked flame. There does not, however, appear to have been negligence in a case reported recently where a serious explosion resulted on opening the door of a gas cooking-stove. The cooking-stove in question was supplied through a "penny-in-the-slot" meter which, owing to its refusal to yield gas on putting pennies in the slot had recently been changed for a new one. The new arrangement was tested and found satisfactory so far as regards the ring burners on the top of the stove. One of the rings was afterwards used to boil the water in a kettle, and later a chop was about to be placed in the oven. On opening the door,

however, in accordance with the directions enjoined by the gas company an explosion occurred, causing serious injuries to the cook. This was the subject of an action, and eventually judgment was given for the plaintiff for £50 with costs. It is clear that the plaintiff had acted upon the gas company's directions and had not turned on the supply to the oven burners before opening the oven door. What had most probably happened was a leak from the burners in the oven, the escaping gas filling the oven chamber forming an explosive mixture which on opening the door by some means or other came into contact with the flames of the ring burner on the top. This occurrence shows the necessity of taking the simple precaution of ventilating the oven so that there may be no possibility of the contained air, mixed perhaps with gas, coming into contact with outside flames. A stove, however, that requires such a precaution is obviously defective in construction, and in view of the great number of gas-stoves now in use for cooking purposes the gas companies letting them out for hire should, we think, have the stoves inspected from time to time both in the interests of their customers and themselves. Moreover, we have recently learned on good authority that the great fire last week had its origin in a gas cooking-stove which was defectively connected with the service pipe.

THE TRAINING OF MISSIONARIES.

IN THE LANCET of Oct. 10th, 1896 (p. 1023), we commented on the remarks made by Dr. Harford-Battersby at the Church Congress last year. This speaker pointed out the necessity for missionaries using every precaution to keep their health, although they might expect Divine protection. The same gentleman has recently returned from the Niger and he is again very emphatic on the point that it is most important that missionary societies should give more attention to the health of their workers while in the foreign field. It seems a matter deserving of grave censure that men and women should be sent, as is sometimes the case, to a deadly climate, like that of West Africa for example, without the slightest medical training and with very little knowledge of how to take care of their health amid unwholesome surroundings. That they should be told to live in "faith" that they will be protected by "Divine Providence" from endemic diseases whilst living in those climates is almost as bad and useless as asking anyone to jump off the Clifton suspension bridge in "faith" that they will escape harm; people have been known to survive the fall, but the chances are greatly against it. Or perhaps a closer analogy is the second temptation and its answer, described in the Gospel according to St. Matthew, iv., 5–7. Some medical knowledge is essential to European missionaries who are sent to reside in unhealthy climates, not only that their lives may be spared but that they may carry out the work for which they are intended. The knowledge will help them in many ways. He whom they serve knew well the influence on the common mind of the healing art and used it frequently as a demonstration of His power. The means which He has given us for the relief of sickness makes the greatest impression on the savage mind and thus forms an additional argument that the missionaries should have some knowledge of medicine and the means of employing that knowledge. To send out missionaries, however, without any medical training or without the presence of a medical man in the neighbourhood is approaching very nearly to the doings of "the Peculiar People" so justly condemned by one of our judges in the Central Criminal Court. We are not preaching "coddling" the missionaries, but would strongly urge that the knowledge which we have suggested places a great weapon in their hands.

SUBSTITUTION.

WHEN will shopkeepers understand that it is a fraud to supply a customer with a substitute after he has asked for the real thing, be it food, drug, or article of clothing? They even go further and have the impertinence to suggest at times that the substitute which they tender is altogether a superior article to the original that is asked for and better suited to the health of the purchaser! A grotesque instance of this kind recently occurred when the Swansea Grocers Association, at a meeting held on Nov. 16th, discussed some recent prosecutions which had taken place because of the substitution of tapioca for sago. Strong protests were raised against the prosecution, it being stated that it was a general practice and that the customer procured a superior article. It is to be hoped that the law will continue to administer a strong rebuke to this erroneous notion. Tapioca is not sago or sago tapioca, and there are important dietetic differences between the two. The case just quoted is only another example of a very common kind of fraud—namely, that of palming off upon the public a substitute the attribute of which is in general its cheaper price. As we have pointed out before, it seems to us that the Sale of Food and Drugs Act might be conveniently shortened into an Act simply to provide against substituted articles being tendered for the real and for the supply of articles of standard quality. If the application of such an Act could be effectually worked we should hear less of those cases of fraud in which cotton-seed oil is substituted for olive oil, ox fat for butter, beet sugar for cane sugar, "flannelette" for flannel, "linenette" for linen, and so on. In fact, we should like to see an Act in operation similar to the Merchandise Marks Act, which shall provide that all substitutes must be very legibly labelled with the word "Substitute" in addition to whatever fancy title may be applied. We have not one word to say against substitutes, which doubtless supply a distinct want of the people, but when substitutes are palmed off for the real articles the crime is none the less because they happen to be good of their kind and harmless.

A SMOKING concert was given, under the auspices of the Cambridge Graduates Medical Club, in the Banqueting Hall, St. James's Hall, on Nov. 17th. The members of the Oxford Graduates Medical Club were invited and were well represented among the guests. The attendance was good, 213 tickets being handed in during the evening. Excellent music was provided by Dr. A. Shadwell, Dr. S. H. Habershon, Dr. Blumfeld, Dr. Ll. Powell, Dr. C. N. Chadborn, Dr. W. J. Harris, Mr. Cole, Mr. L. R. Marshall, Mr. Pollard, and Mr. Nixon. The proceedings, which were informal and thoroughly social, terminated shortly before midnight.

A MEETING of the Council of the Metropolitan Hospital Sunday Fund will be held at the Mansion House to-day (Friday) at 3 P.M., when amongst other business the convening of the next annual general meeting of constituents will be ordered and the question of the date of Hospital Sunday for 1898 to be recommended to the constituents will be considered.

H.R.H. THE DUKE OF CONNAUGHT will take the chair at the festival dinner in aid of St. Mark's Hospital to be held at the Whitehall Rooms, on St. Mark's Day, Monday, April 25th, 1898.

THE Council of King's College, London, have received an anonymous donation of £15,000 towards the liquidation of the College debt.

The Lancet Special Commission

ON THE

METROPOLITAN WATER-SUPPLY.

XX.[1]

NEW RIVER COMPANY—*Continued.*

THE WELLS, PUMPING-STATIONS, AND RESERVOIRS.

A GENERAL survey of the present course of the New River having been given we proceed to describe the stations of the Company.

Broad Mead well (see C on general Map[2]).—At Broad Mead a boring was made in the hope that the greensand might be reached and that it would afford a supply of water. The bore of the well was taken down a distance of 831 ft., the size of the bore being 20 in. at the upper part and 16 in. at the lower part. The greensand formation was not found. A well 30 ft. in depth was sunk, but no large supply of water can be obtained here. The amount has been estimated at 500,000 gallons a day, but the pumping arrangements are, we believe, not capable of raising this quantity.

Pumping arrangements.—There is a simple horizontal engine with a centrifugal pump and a boiler of the locomotive type. The engine is of 16 horse-power. When visited on Jan. 5th and June 16th this engine was not working; it is rarely used. The water is pumped from the well into the river, which at this point contains the water derived from the Lee and from Chadwell spring.

Amwell End well and pumping station (see D on Map).—The well is 72 ft. in depth. Chalk occurs at the depth of about 36 ft. below the surface; the part above the chalk is lined with iron.

Pumping arrangements.—There are two reciprocating pumps which have barrels 22 in. in diameter. These are worked by a simple condensing vertical engine of 50 horse-power. The steam is generated by two Galloway boilers. The amount of water which can be obtained here is estimated at 1,500,000 gallons daily. The water is pumped into the river through iron pipes. It was stated on June 16th that the pumps had been at work for twelve hours daily from the month of April.

Amwell Hill well and pumping station (see E on Map).—This station is situated on the upper bank of the New River on the steeply sloping side of Amwell Hill, at a level of about 20 ft. above the New River. The well is 90 ft. in depth and goes into the chalk; it has headings and a bore hole. The shaft is lined with brick. From this shaft there are headings 6 ft. in height and 4 ft. 6 in. wide. From the centre of the shaft there is a bore hole 2 ft. in diameter at the upper part and 9 in. at the lower part. The bottom of the bore hole is 161 ft. from the surface. The amount of water which can be obtained daily is stated to be 3,500,000 gallons, and it is said that this quantity can be obtained day after day for a period of six months.[3] When visited on Jan. 5th the pumping arrangements were being overhauled and repaired. There is a beam engine of 50 horse-power and an inverted cylinder engine of 25 horse-power. The steam is generated by one Lancashire and one Cornish boiler. The water passes through a large brick culvert into the New River. At this station there is another small engine which is used for pumping water into the village; the water used for this supply is pure water from the well. No water from the New River is used for the local supply. With the exception of this small local supply no water was raised from the well from Nov. 21st, 1896, until the time it was visited on Jan. 5th, 1897.

Amwell Marsh well and pumping-station (see F on Map).—This station is situated on the lower bank of the river; it was completed in 1884.

Well.—There is a well 110 ft. in depth. The quantity of water which it is said can be obtained daily from the well is 2,750,000 gallons.

Pumping arrangements.—There are two simple vertical engines of 35 horse-power each. These work pumps through bell cranks. The steam is generated by two Cornish boilers. The water is all pumped into the New River. When visited in June the daily amount pumped was about 1,500,000 gallons daily.

Rye Common well and pumping-station (see G on Map).—This station is situated at the lower bank of the New River.

Well.—There is a well 200 ft. in depth lined with brick and iron cylinders to the depth of the chalk. The level of the water in this well on June 16th was 55 ft. below the surface. At this date the engines were worked for twelve hours daily and were raising about 2,500,000 gallons of water.

Pumping arrangements.—There are two vertical engines with inverted cylinders of 100 horse-power each. These work the pumps through bell cranks. Steam is generated by two Cornish boilers. The water is all pumped into the New River. It is stated that the well is able to supply from 4,000,000 to 5,000,000 gallons daily.

Hoddesdon well and pumping station (see H on Map).—The station is situated on the lower bank of the river. The well is 55 ft. in depth. Chalk was reached at a depth of 32 ft. from the surface. The amount of water which can be obtained is said to be 2,000 000 gallons daily.

Pumping arrangements.—There is a 50 horse-power vertical single cylinder engine which works two pumps through gear. The steam for working the engine is generated by a Lancashire boiler and the pressure used is 25 lb. All the water is pumped into the New River.

Broxbourne well and pumping station (see I on Map).—The well is about 200 ft. in depth. The diameter at the upper part is 16 ft. This well has two headings, one 300 ft. and the other 400 ft. in length. The amount of water which it is said can be obtained daily is 4,500,000 gallons. On July 16th it was 137 ft. below the surface. The level has been reduced to 145 ft.

Pumping arrangements.—There are three engines of 180 horse-power altogether. Of these two are vertical engines with inverted cylinders and the other a horizontal engine. The steam is generated by Lancashire boilers, and the pressure used is 65 lb. The pumps are worked through bell cranks. There are six pumps of which the cylinders are 14 in. in diameter and the stroke is 3 ft. The rate at which they are worked is 25 per minute.

Turnford well and pumping station (see J on Map).—The station is situated on the lower bank of the river. The well is 170 ft. in depth and has two headings of 220 ft. and 190 ft. in length respectively, and a bore hole to 1000 ft. in depth. The well is said to be capable of supplying 3,000,000 gallons daily.

Pumping arrangements.—There are two engines. One single cylinder side lever engine works bell cranks through gear, and an inverted cylinder engine works bell cranks directly. The steam is generated by two Lancashire boilers, and the pressure at which the engines are worked is 56 lb. Of the pumps two have cylinders 18 in. in diameter, a stroke of 2 ft. 6 in., and work at a rate of 27; the other two pumps have a diameter of 22 in., a stroke of 6 ft. 0 in., and work at a rate of 8 strokes a minute. The water is all pumped into the New River.

Hoe-lane well and pumping station (see M on Map).—The well is about 200 ft. in depth. Chalk occurs at a depth of about 100 ft. The amount of water which it is estimated the well could supply daily is 2,000,000 gallons.

Pumping arrangements.—The water is pumped by two horizontal engines which together possess 170 horse-power. The steam is supplied by three Lancashire boilers. The engines work the pumps through gear.

Bush Hill reservoir (see N on Map).—The reservoirs are situated in Bush Hill Park. A well was sunk here and a water tower built when the estate was laid out for building purposes. The well and reservoirs were taken over by the New River Company. The well is not now used. The water for the supply of the reservoirs is pumped from Highfield and is distributed to the surrounding district.

Southgate reservoir (see O on Map).—This reservoir is situated on the highest point at Southgate-hill, near Cockfosters-road and Chase Side-road. The area occupied by the

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[1] Nos. I., II., III., IV., V., VI., VII., VIII., IX., X., XI., XII., XIII., XIV., XV., XVI., XVII., XVIII., and XIX. were published in THE LANCET of Feb. 20th and 27th, March 6th, 13th, 20th, and 27th, April 3rd, 17th, and 24th, May 1st, 8th, 15th, 22nd, and 29th, June 19th and 26th, Oct. 23rd, and Nov. 6th and 13th respectively.

[2] The map referred to in this article appeared in THE LANCET of Oct. 23rd, p. 1069.

[3] Mr. Mylne, the engineer to the Company, stated in 1852, in his evidence on the Metropolitan Water Supply, that the well then yielded 2,466,000 gallons daily.

station is about three acres, and it is surrounded by a 6-ft. brick wall; the reservoir occupies about one-third of the space. It is built of brick set in cement and covered by brick arches; the top is turfed over. Ventilation is effected through twenty iron gratings, 18 in. by 6 in. in size, which are placed at the sides of the reservoir. There is a circular manhole 4 ft. in diameter covered by York stone. The capacity of the reservoir is 1,000,000 gallons and the top water level is 308 ft. above ordnance datum. The water pumped here comes from the well at Betstile and from Highfield; it is all pure well water. The districts supplied are Southgate and Winchmore Hill. There is no electric communication between this place and the pumping station. A man is sent to the reservoir twice a day to note the height of the water.

Highfield (Edmonton) well and pumping station (see P on Map).

Well.—The well is about 200 ft. in depth. The diameter at the upper part is 15 ft. and at the bottom 11 ft. The upper 40 ft. of the shaft is lined with brick, and below that with iron cylinders to the chalk, which occurs at a depth of 116 ft. There are two headings, each about 30 ft. in length. The amount of water which the well is said to be capable of supplying is 3,000,000 gallons. When visited on July 20th the level of the water in the well was 160 ft. below the surface. The pumping had been going on continuously for a month. The rest level—that is, the height to which the water rises when pumping operations are discontinued for some time—is 60 ft. below the surface.

Pumping arrangements.—There is a pair of single cylinder vertical engines. The cylinders are 32 in. in diameter, the length of the stroke is 3 ft., and the rate at which the engines are working is about 28 strokes per minute. The engines work four bucket and plunger pumps through bell cranks. The diameter of the pump barrel is 14½ in.; the length of the stroke is 3 ft. The steam for working the engines is generated by three Lancashire boilers, and they are worked at a pressure of 50 lb. There is also a compound vertical engine which had a cylinder 15 in. in diameter and a stroke of 12½ in. This engine is used for pumping water to Southgate. The head of water worked against in pumping to Southgate is 250 ft. There is at this station the recording index of an electric gauge, which shows the height of the water in the Bourne Hill reservoir.

Bourne Hill reservoir (see Q on Map).—This is situated on the south side of Dog and Duck-lane, Southgate. It is surrounded by a wall on three sides and by a high oak fence on the side next to the road. The reservoir is built of brick set in cement, and is covered by brick arches on the top of which there is a layer of about 2 ft. of earth which is turfed over. There are twenty-four cast iron ventilators. The reservoir has a capacity of 1,500 000 gallons. The top water level is 195 5 ft. above ordnance datum. There is a floating gauge here which is in electric communication with Highfield engine house from which it is about a quarter of a mile distant. The communicating wire passes along the public high road. Water is pumped here from Highfield and the reservoir can also be supplied from the one at Crouch Hill, which is about two and a half miles distant. The water from this reservoir supplies Edmonton and part of Southgate.

Betstile well and pumping station (see R on Map).

Well.—At this station there is a well 142 ft. in depth sunk into the chalk.

Pumping arrangements.—The water is pumped by two horizontal engines of 12 horse-power each. These work pumps through gear. The steam is generated by two Cornish boilers.

The amount of water which can be obtained is estimated to be 500,000 gallons daily. It is used for the supply of the district around.

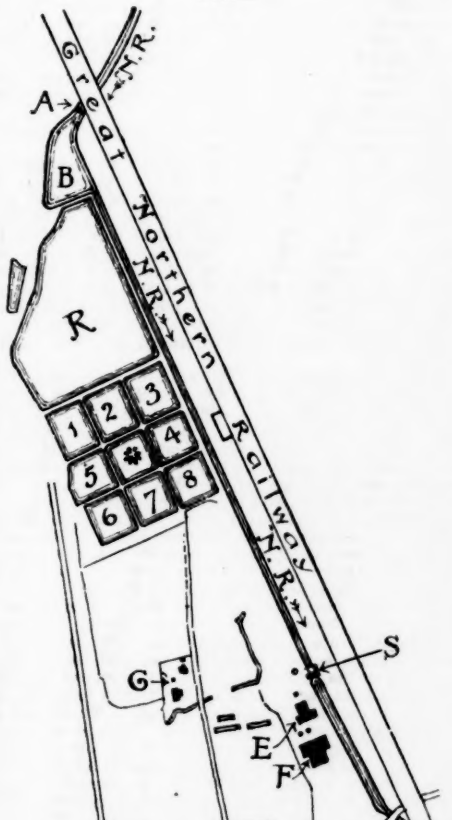
This place was formerly the property of the North Middlesex Waterworks Company.

Hornsey reservoir, filter beds, and pumping station (see S on Map, and Plan Fig. 1).—This station is situated on the lower bank of the New River at the foot of Muswell Hill and just to the west of the Great Northern Railway line. The water from the New River after passing the Hornsey grate-bridge (see Fig. 1, A), which has already been described, passes into the Hornsey basin (Fig. 1, B), a reservoir which has an area of about an acre. From the basin the water is conducted into the reservoir through a 48-in. pipe, guarded by a screw-cock.

Reservoir (Fig. 1, R).—There is an open reservoir, which occupies an area of eight acres and is capable of holding 8,500,000 gallons of water. The sides of the reservoir are lined with Kentish rag.

Filter beds.—There are eight filter beds, numbered 1 to 8 respectively. Of these, No. 1 when visited in July, 1897, was being re-made. Of the others, Nos. 4, 5, 6, 7, and 8 have vertical walls. Nos. 2 and 3 have sloping walls; these

FIG. 1.



Hornsey and Campsbourne Stations. N R, New River. A, Hornsey grate. B, Hornsey basin. R, Reservoir. 1, 2, 3, 4, 5, 6, 7, 8, Filter beds. * Storing place for sand. K, Hornsey sluice engine house. F, Hornsey engine house. G, Campsbourne well and pumping station. S, Hornsey sluice house.

will be re-made after No. 1 has been done. The central space between the filter beds is used for storing sand.

The upper parts and sides of the beds are lined with blue Staffordshire bricks. The old beds are formed as follows: sand, 2 ft.; fine shingle, 2 ft.; and coarse shingle, 1 ft. The floor of the filter bed is formed of perforated bricks set on edge, and the filtered water is collected in a central channel which is 2 ft. 6 in. square. Each filter bed has four 3-in. cast-iron ventilating shafts, which are situated at the sides of the bed, and none of the beds have central ventilating shafts. The sand is cleansed by washing with a jet of water working at a pressure of 100 ft. head.

Engine houses.—There are two engine houses close together called the Hornsey Sluice and the Hornsey. Water is pumped from the filter beds to Crouch Hill reservoir and to Hornsey-lane reservoir.

Hornsey Sluice engine house (Fig. 1, E).—Here is a pair of Worthington triple expansion pumping engines. These pump about 2,500,000 gallons of water daily to Hornsey-lane against a head of water 250 ft. They are capable of pumping

a much greater quantity. The steam is generated by three Lancashire boilers which work at a pressure of 125 lb.

Hornsey engine house (Fig. 1, F).—There are four beam engines of 110 horse-power each. These are worked by steam supplied by ten Lancashire boilers.

The water, which is derived partly from wells and partly from the filter beds, is pumped to Crouch Hill reservoir and to Hornsey-lane.

Between the Hornsey Sluice engine house and the Hornsey engine house there is an excellent bath-room, provided with hot and cold water, which is at the service of the workmen. The sanitary arrangements here are admirable.

At Hornsey there is a tramway over the river from the Great Northern Railway. This is used for the conveyance of coals to the engine houses.

Campsbourne well and pumping station.—This station adjoins the one at Hornsey. (See Fig. 1.)

Well.—The well is 215 ft. in depth. At the upper part the shaft is 15 ft. in diameter, at the lower part 10 ft. The well is lined with brick for the upper 100 ft., then with iron cylinders. Chalk occurs at a depth of 168 ft. This well does not contain any bore hole. The level of the water when visited on July 21st was 190 ft. below the surface. The rest level is about 100 ft. below the surface. The amount of water which it is stated can be pumped daily is 3,000,000 gallons. At the present time the amount pumped is on an average 1,500,000 gallons. Water is pumped to (1) the New River, and (2) Hornsey, against a head of about 10 ft.

Pumping arrangements.—There are two compound vertical surface condensing engines, the size of the high pressure cylinder is 18 in., of the low pressure cylinder 3 ft. The length of the stroke 2 ft. 6 in. The steam is generated by three Lancashire boilers working at a pressure of 80 lb. The engines work pumps of which the barrels are 17 in. in diameter, and the length of the stroke is 2 ft. 6 in. The rate at which they are worked is 30 strokes per minute.

Workshops.—At this station there is a large carpenters' shop and a well-fitted blacksmiths' shop. Here much carpentering work is done. The wood and iron work required on the river is now carried out by the Company's own servants and under the supervision of their own engineers.

Crouch Hill reservoirs (see U on Map).—The station is situated next Mount View-road and Ferme Park-road, Hornsey, 195 ft. above ordnance datum. The area occupied here is about 8 acres. There are two reservoirs covered with brick arches and turfed over. The slope of the sides is 1 in 6, and the reservoirs are built of brick set in cement. There is a cast iron ventilator. Each reservoir has an entrance pit covered by an iron roof. There is an electric gauge here which records the height of the water in these reservoirs. The recording index is situated at the Green Lanes station, whence the water is pumped. These reservoirs are capable of holding 12,000,000 gallons. They are used for the supply of Islington, of Hornsey, and of part of the city. The turf over the reservoirs is used by the Northern Heights Lawn Tennis Club. A caretaker's cottage is situated here.

(To be continued.)

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

THE first meeting of the Royal Commission on the Metropolitan Water-supply took place in the Moses Room of the House of Lords on Monday last, Nov. 22nd. The Commissioners appointed, it may be remembered, were the Right Hon. Viscount Llandaff (chairman), the Right Hon. John William Mellor, Q.C., M.P., Sir John Edward Dorington, Bart., M.P., Sir George Barclay Bruce, C.E., Mr. Alfred de Bock Porter, C.B., Major-General Alexander de Courcy Scott, R.E., Mr. Henry William Cripps, Q.C., and Mr. Robert Lewis. With the exception of the Right Hon. J. W. Mellor all the Commissioners were present.

The London water companies and the county councils of London, Middlesex, and Hertfordshire were represented by counsel. Mr. Balfour-Browne, Q.C., and Mr. Freeman, Q.C., appeared for the London County Council; Sir Richard Nicholson for the Middlesex County Council; and Lord Robert Cecil for the Hertfordshire County Council. As counsel for the water companies Mr. Pope, Q.C., and Mr. Claude Baggallay, Q.C., appeared for the New River and Southwark and Vauxhall Companies; Mr. Littler, Q.C., and Mr. Lewis Coward for the Kent Company; Mr. Pember, Q.C., for the East London, Lambeth, Grand Junction, and West Middlesex Companies; and Mr. Richards for the Chelsea Company.

Before any evidence was taken the Commissioners had a preliminary private meeting and the inquiry did not commence until about forty minutes after the announced time which was midday. It may be well here to recall the exact scope of the inquiry, which will be best done by giving the terms of the reference, which are as follows:—

"To inquire: 1. Whether, having regard to financial considerations and to present and prospective requirements as regards water-supply in the districts within the limits of supply of the metropolitan water companies, it is desirable in the interests of the ratepayers and water consumers in those districts that the undertakings of the water companies should be acquired and managed either (*a*) by one authority, or (*b*) by several authorities; and, if so, what should be such authority or authorities. To what extent physical severance of the works and other property and sources of supply of the several companies and the division thereof between different local authorities within the limits of supply are practicable and desirable, and what are the legal powers necessary to give effect to any such arrangements.

"2. If the undertakings are not so acquired, whether additional powers of control should be exercised by local or other authorities; and, if so, what those powers should be.

"3. Whether it is practicable to connect any two or more of the different systems of supply now administered by the eight metropolitan companies; and, if so, by whom, and in what proportion, should the cost of connecting them be borne, and what are the legal powers necessary to give effect to any such arrang ment."

At the opening of the proceedings Lord Llandaff stated that he would at once examine Mr. Cripps, the Parliamentary agent of the London County Council. The examination was founded on a long report which had been sent by the London County Council to the Royal Commission. This report was marked "Private" and was not in the hands of any one except the representatives of the County Council and the members of the Royal Commission. At a later stage of the meeting, however, Mr. Cripps put in two tables, summary analyses of the published accounts of the London water companies for the years 1895 and 1896, and these tables were given to the representatives of the water companies.

During the course of the examination Mr. Cripps said that he had been engaged in all the Parliamentary proceedings of the London County Council in reference to water companies and that he was acquainted with the views of the Council on the London water-supply, and that he appeared on their behalf to give any information he could on the subject. The London County Council had expressed their views on the question of the water-supply in a number of formal resolutions, and their latest opinion was: Firstly, that the undertakings of the water companies should be at once bought at their fair value; secondly, that the management of the water-supply should be carried out either by (*a*) the London County Council supplying its own area directly and supplying the outside authorities with water in bulk at a fixed price, or (*b*) that the London County Council should supply the area over which it has statutory rights and that the outside bodies should supply their own districts.

The London County Council had considered the question as to whether it was desirable that a new authority should be formed and invested with powers to carry out the water-supply of the county of London and the districts around, and they have come to the conclusion that such a solution of the question is undesirable; on the contrary, the London County Council were in favour of the immediate purchase by themselves of the property of the present companies supplying London with water. Mr. Cripps said he considered that Parliament had been in favour of the ultimate purchase of the undertakings of the companies by some one body. There were analogous cases also in provincial towns in which the water-supply which had at one time been in private hands had under Parliamentary sanction been taken over by the local authorities.

The Chairman asked if there were any statistical details with regard to the effect which these purchases had had on the cost of the water-supply in the case of these provincial towns but no information whatever on this subject was elicited.

In the case of London Mr. Cripps thought there were special reasons for the purchase of the water-supply by one authority. The reasons were briefly: 1. When the present companies for the supply of London with water were started

there was no protection for the consumer with regard to the management of the supply. 2. The poor did not know who supplied them except in the case of those amongst them who were able to read and who might see the form of application for the water-rate. [The Chairman asked for some more important reasons.] 3. There was no competition between the various water companies and although their authorised limits of supply overlapped they did not undersell one another. 4. London does not get its supply from a great distance, therefore no great expense is being incurred. [It was not apparent to the Chairman what force this reason had.] 5. The auditor of the accounts of the water companies was paid by the water companies themselves and in the case of legal expenses proceeding from the audit there was a case in which the auditor had to pay them out of his own pocket. [No details or particulars were given of this case.] 6. The different companies had various scales of charges. 7. The height to which the supplies were given was not the same in the case of all the companies.

The witness was unable to say whether the London County Council would be willing to go to arbitration with regard to the price at which the property of the companies should be bought, nor would he say what he thought would be a fair price for the Council to pay for the undertakings, nor would he say what price he thought the Council could afford to pay so as to enable them to carry on without pecuniary loss the various water businesses in the way in which they are conducted at present. In the course of examination the witness said that he regarded the interests of the City of London as not identical with the interests of the rest of London as far as the water-supply was concerned; indeed, they were adverse to those of the rest of London because of the much greater rateable value of premises in the City as compared with the number of the resident population.

The Chairman pointed out that he should have thought from the fact that as the rateable value of the City premises was very high it would be all the more to the advantage of the citizens to have a cheap supply of water.

The witness then explained that what he meant was that in the case of the City, where the quantity of water taken was not very great, and in the case of highly rated premises it would be to the advantage of consumers to pay for their water by meter—that is to say, according to the amount which they receive and not according to the value at which their premises are rated.

The meeting was adjourned shortly after 4 P.M. The next meeting will take place on Monday, Dec. 5th.

LEICESTER AND SMALL-POX.

(*Continued from p. 1342.*)

IT is important to note that Mr. Biggs in his evidence before the Royal Commission declared that the Leicester method had been perfected. This evidence was given in 1891, there having been no deaths from small-pox in Leicester for some years, and the outbreak of 1892-93 not having commenced. His words were: "That with the abandonment of vaccination and with the perfecting of the 'Leicester method' of sanitation, isolation, quarantine, disinfection, &c. during the last six years small-pox mortality becomes extinct." In cross-examination Mr. Biggs was asked by Lord Herschell (Q. 15729-30): "Have you gone into the question at all as to whether there has been a similar extinction of small-pox mortality in places in which your system of isolation and quarantine has not been adopted?" and "Would not an inquiry of that sort be essential to enable one to judge how far the particular result was due to the suggested cause?" In reply Mr. Biggs said: "The only inference I could deduce from a comparison of that kind would be this, that if a town which had practised vaccination had been found to be free from small-pox and a town which had left off vaccinating was equally free, then nothing could be claimed for vaccination." In the process by which he arrived at the statement that, of the quarantined, "133 were neither vaccinated nor re-vaccinated" we have already met with Mr. Biggs as a statistician. Here we have the honour of being introduced to him as a logician. Supposing we alter the subject matter slightly his answer will read as follows: "The only inference I could deduce from a comparison of that kind would be this, that if a town which had practised the Leicester method had been found free from small-pox and a town which had not practised the method was equally free, then nothing could be claimed for the Leicester method." We have much pleasure in making Mr. Biggs a gift of his own argument and in claiming him as a non-believer in the method. As a matter of fact, many places had had as little small-pox as Leicester during the years in which the method had been in vogue, and this was the case even if we exclude the outbreak of 1892-93. This being so, then according to Mr. Biggs "nothing could be claimed for the Leicester method." But in defiance of his own argument, small-pox being at zero in Leicester, Mr. Biggs is thoroughly persuaded of the value and perfection of the Method. In May, 1891, he wrote; "We find small-pox very easy to deal with, and the same hospital and staff of officials deal with small-pox as with other infectious diseases. There is no compulsion. If people choose they may go into quarantine, or they may stay out. No one's liberty is infringed."[1] It would appear, therefore, that the Leicester method, as described to the public and the Royal Commission by the Leicester antivaccinationists, consisted of notification, disinfection, quarantine, and isolation. In addition "general sanitation" is spoken of. The "note" of the system was its voluntary character. Compulsion was altogether repugnant to it. It was denied that there was even the indirect inducement of payment of wages during quarantine. Mr. Biggs's statement to the Commission was unequivocal: "I think there is sufficient evidence to prove that no compensation has been made in the shape of wages, and that all that has been done in carrying out our system has been to reimburse those whose articles of furniture have been destroyed." The hospital was there alike for such diseases as small-pox, scarlet fever, erysipelas, &c., and also for quarantine. It had the same staff of officials, and the same ambulance waggon for all diseases, the nurses being vaccinated or not as they pleased, and scarlet fever cases, vaccinated or unvaccinated being in one part of the hospital, and small-pox cases in another, and quarantined persons in another. The Jennerian "rite" was a dead letter. The liberty of the subject was strictly attended to. In short, the Leicester method had been perfected, and small-pox was non-existent. The Method, moreover, was alleged to have this great advantage, that it was good alike for all infectious diseases. Mr. Israel Hart, ex-mayor of the town, pointed this out to the Commission. As to small-pox he said: "I have no doubt you have heard that we have adopted such measures in the district that practically the disease is stamped out." As to other diseases, "if there is a case of fever it is dealt with directly, and there is no fear of an epidemic; epidemics, as we know, arise from contagion, and it is difficult for contagion to take place as contagious disease is dealt with at Leicester." To make sure of the matter Sir William Savory asked, "Your sanitary measures are effective, I presume, not only against small-pox, but against all forms of infectious disease?" and the answer was: "All forms of contagious disease." Truly a wonderful Method—and perfected.

In 1891, as we have said, Leicester was free from small-pox. In the three years, 1889, 1890, and 1891, not only had there been no deaths, but there had been no cases. In previous years there had been a few cases, but owing, as was alleged, to the method, the disease had not spread. The favourite expression was that small-pox had been "stamped out." It had not died out. In other places small-pox might have died out, but not in Leicester. There it had been killed—by the Method. Near the end of August, 1892, a tramp came to Leicester and developed a mild attack of small-pox, and so gave the method another opportunity of exhibiting its powers. The *Vaccination Inquirer* was naturally jubilant. It dealt with the subject in the same issue (November, 1892) which contained Mr. Biggs's article already referred to. "There has, it seems, been another importation of small-pox into Leicester, and again it has been stamped out without the disease getting any real hold. As usual, a tramp brought it into the town, and, being taken ill at a lodging-house, was removed to the workhouse. The precise details seem to be somewhat in dispute as to the way in which he managed to infect two others, both of whom had

[1] Vaccination Inquirer, 1891, p. 69.

severe attacks, one being fatal, the disease being in this case complicated with other disorders. The Leicester method, however, was equal to the emergency, and we hear nothing of the complaint spreading any further. We trust that the Commission will thoroughly investigate the circumstances of this latest Leicester success." Once more the Method had triumphed. The disease was again "stamped out." In accordance with the *Inquirer's* desire the Commission did investigate. What says their investigator, Dr. Coupland? That, instead of the disease having been stamped out, eleven cases were known of at the time the *Inquirer* was engaged in boasting about this "latest success." By the end of November there were sixteen more cases, all but perhaps two traceable to the tramp. This spread of the disease was something the *Inquirer* had not contemplated, and in its December issue it took a very curious line. Having already asserted that the "tramp" importation had been stamped out, it did not withdraw its misstatement, but declared that there had been an "importation of small-pox into the city on a rather larger scale than usual." But that was not all. Mr. Biggs, small-pox being absent, had told the Royal Commission that the Leicester system had been perfected. Now, small-pox being present and not having disappeared as before, the Leicester system came in for criticism, and the *Inquirer* urged that "public opinion should bring all the assistance it can to those of the Leicester authorities who are endeavouring to perfect the arrangements within the town for coping with epidemics of any kind, including small-pox." The authorities, or some of them (there seems an innuendo as to others), were thus "endeavouring to perfect" what had already been declared to the Commission to be perfected. Indeed, it now turned out that small-pox being abundantly present, and the "latest success" having been a desperate failure, criticisms of the Leicester system were rather welcome to the *Inquirer*, as providing it with an explanation of the outbreak, "so that every fault that can be found in the details and execution of the Leicester method, so far from being a proof that that method in itself is wrong, only shows the need for greater perfection *before the method itself can be said to have been really tried.*" (The italics are ours.) "Greater perfection" is a good phrase. It was only a Leicester town councillor who had told the Commission about the perfection of the Method, but a university graduate naturally wanted "greater perfection." Leicester had been free from small-pox for years. Anti-vaccinationist orators had stumped the country in glorification of what Leicester had done. Other towns had been strongly urged to copy its procedure. The Leicester case, the *Inquirer* had said, constituted "the keystone of the anti-vaccination arch." Now at last, however, when small-pox did begin to spread in Leicester the *Inquirer* was open to deny that the Leicester method had ever been really tried. If it were true that the Leicester hospital was only an old shed, as was being stated in THE LANCET, then that was no criticism of the Leicester system. Quite the contrary, "it is clear that so far the Leicester system has not broken down. It has not been tried."

The Leicester Method, in fact, was to be looked on as resembling Sairey Gamp's Mrs. Harris. There never had been any Mrs. Harris and there never had been any Method. So long as there had been no spread of small-pox in Leicester there had been plenty of talk in the *Inquirer* and before the Royal Commission and in letters to newspapers, but the talk had been about a myth, or at best a theory, and the journal which only the month before had been boasting of a fresh triumph of the Method was now preparing to take up the position that there "really" never had been anything more than talk. For a parallel to this attitude we have to look to anti-vaccination itself. When Gloucester was free from small-pox whilst neglecting vaccination it was declared to be a very sanitary town and to owe its freedom to sanitation. When small-pox came the town was forthwith denounced as highly insanitary and the denunciations have ever since formed the standing defence of Gloucester anti-vaccinationists.

The question for the *Inquirer* now was, whether it should in its next issue (for January) advance further on the line adopted in December and denounce Leicester for its want of a Method, or retrace its own steps and re-adopt the November attitude—that there really was a Method and that the Method was triumphant. The course of the outbreak during December might decide the matter. In the first half of the month there were nine or ten cases, and then suddenly there was a cessation of notifications, only one more being received previously to Dec. 30th. This lull seems to have settled the question, for on Jan. 2nd the *Inquirer* declared "that the Leicester system has again triumphed without recourse to vaccination or any other measures other than those always included in the Leicester method." The "old shed" of a hospital remained, but small-pox was fondly supposed to have gone. Radical change of attitude was hardly possible after this even for the *Inquirer*, and thirty-six cases having been notified in January, the editor tried to console himself and his readers by telling them in February, not that the Method was still triumphant, but that there were well-vaccinated places that were no better off than Leicester as regards small-pox. What a pitiful declension—that Leicester with its wonderful Method had no more small-pox than places that had trusted to the despised method of the much reviled Jenner! And what a contrast with the claim of Mr. Biggs before the Commission: "Your contention is, that whatever the virtue of vaccination in preventing small-pox, this good system of sanitation has just as much virtue?—My contention is that it has far more and that, in fact, vaccination has none, because we have dealt with small-pox without vaccination." (Q. 15,734.) Then in March the *Inquirer* wrote that its readers would "hear with mingled surprise and pleasure that there are still some people left alive in Leicester." And here we shall leave the *Inquirer* to enjoy its mingled surprise and pleasure at the success of the Method, not even waiting to discuss which might be the greater—its surprise or its pleasure.

(To be continued.)

MAYORAL HONOURS FOR MEDICAL MEN.

BOOTLE.

JOHN MCMURRAY, M.D., M.S., M.A.O.R.U.I., matriculated in the Queen's University, Ireland, in 1878, and passed all his examinations for his profession with honours. He was a prizeman in various subjects, and competed for and held the Senior Scholarship in Therapeutics and Pathology (1881-82). He also obtained a gold medal given at the Children's Hospital, Belfast. After graduating Dr. McMurray acted as assistant for three months when he obtained the appointment of junior house surgeon at the East Dispensary, Liverpool. About a year after he was promoted to the position of senior house surgeon at the North Dispensary, Liverpool. From there he went to the Liverpool Parish Infirmary, became senior house surgeon within twelve months, and remained in that institution for almost three years. The appointment of medical officer to the Kirkdale Industrial Schools having become vacant he obtained this post and also the position of medical officer to two branch establishments of the Liverpool Workhouse. In February, 1888, he commenced private practice in Bootle, and in 1892 he was invited to become a member of the Bootle School Board. In 1895 he obtained a seat on the Stanley Ward Council. As a councillor for that ward he served on the Health, Library and Museum, and Parks and Baths Committees, and was this year unanimously elected by the council as mayor of the borough.

CARNARVON.

Robert Parry, M.B., L.R.C.P. Lond., M.R.C.S. Eng., L.S.A., studied during the years 1872-74 at Owens College, where he passed the Matriculation and Preliminary Science Examinations of the University of London. In October, 1874, he entered Guy's Hospital and gained the first prize at the end of the session. Having filled the usual appointments, he passed the M.R.C.S. Eng., and L.S.A. examinations, and commenced practice at Harlech, where he remained for a few months. He returned to London in 1880 as assistant medical officer to the Cleveland-street Asylum and then passed the M.B. Lond. and L.R.C.P. Lond. He remained in Cleveland-street till 1883, when he started practice in Carnarvon. He entered the town council in 1887, and has since with the exception of one year been a member. Dr. Parry has served on the sanitary and other committees of the council, and for the last five years has been chairman of the Gas Committee. In 1894-95 he acted as deputy-mayor.

COVENTRY.

Thomas Webb Fowler, M.R.C.S. Eng., L.R.C.P. Lond., L.S.A., was born at High Wycombe, Buckinghamshire, in 1861. He received his early education at Elmfield College, York, and afterwards studied at Queen's College, Birmingham, where he obtained honours certificates in physiology. He commenced practice in Coventry in 1885 and first entered the city council as a Conservative representative for Spon-street Ward at a by-election in August, 1889. In the following year, owing to the extension of the city boundary, the whole of the councillors vacated their seats; Mr. Webb Fowler again fought Spon-street Ward and has not since that period had to fight for his seat. Upon entering the council he first served upon the Gas Committee, and subsequently upon the Estates and Finance, Sanitary, and General Works Committees. He is on the Sanitary Committee and has occupied the position of vice-chairman of the Waterworks Committee and of the Electric Light Committee since its inception. In sanitary matters Mr. Fowler has occupied a prominent position. As an example of the esteem in which the new mayor is held by the people it may be mentioned that on one occasion when the police were being pelted by a portion of the public at the Market Hall in connexion with an endeavour to sell goods seized for non payment of the vicar's rate he mounted a form near the Market Hall, addressed the crowd for a few minutes, and succeeded in quelling the turbulence.

HASTINGS.

Frederic Bagshawe, M.D. Cantab., F.R.C.P. Lond., belongs to an old family of the Peak of Derbyshire. His grandfather was Sir William Bagshawe. Dr. Bagshawe was educated at Uppingham and thence proceeded to St. John's College, Cambridge, where he graduated and became M.A. in 1861 and M.D. in 1865. He studied medicine at Cambridge and at St. George's Hospital, London, became M.R.C.P. in 1864, and was elected F.R.C.P. in 1879. He held a medical appointment at the Hospital for Sick Children, Great Ormond-street and became a colleague of Sir William Broadbent as physician to the Great Western Dispensary, London. He began to practise in Hastings in 1865, but spent the winter seasons practising on the Riviera up to the time of the Franco-German War in 1870, when he finally settled in Hastings. He became assistant physician to the East Sussex, Hastings, and St. Leonards Hospital in 1871, and later full physician. For twelve years he was engaged with Mr. Howell and others in trying to secure a new site whereon to rebuild the hospital, the majority of governors voting being in favour of removal. He was chairman of the south-eastern branch of the British Medical Association in 1883, and presided over one of the sections of the Health Congress held in Hastings in 1889. He has taken an active interest in the water-supply and sanitary questions of the borough. Quite recently he has been placed on the county bench of magistrates.

HEDON (HULL).

James Soutter, L.R.C.P. Lond., M.R.C.S. Eng., L.S.A., who is thirty-four years of age, was a pupil of Mr. R. H. Bouchier Nicholson for two years and attended the practice of the Hull Royal Infirmary. The rest of his education he received at St. Bartholomew's Hospital, subsequently qualifying as M.R.C.S. Eng., L.R.C.P. Lond., L.S.A. He settled in Hull and was extra-mural house surgeon to the Children's Hospital, but on a death vacancy occurring in his native town he bought the practice ten years ago. His family have been connected with the borough a good many years, his great-grandfather having been a former mayor. He has been a town councillor since 1890, and was the mayor last year. He is a Surgeon-Captain in the 2nd East Riding Yorkshire Volunteer Artillery, Surgeon to H.M. troops stationed at Paull Point Battery, and district medical officer to part of two unions—viz., Skirlaugh and Patrington.

HENLEY-ON-THAMES.

James Liddердale, M.R.C.S. Eng., L.S.A., entered as a student at St. Mary's Hospital in 1868, being then eighteen years old. In 1870 he was appointed assistant demonstrator of anatomy in the medical school and also a prosector at the Royal College of Surgeons of England owing to the excellence of his work. This latter appointment led to his being given the office of assistant curator to the Hunterian Museum of the College, and assistant to the Court of Examiners of the same College, which he held for three years—viz., from 1870 to 1873. He qualified as M.R.C.S. Eng. in 1872. Subsequently he was appointed resident medical superintendent to the Female Lock Hospital, Harrow road, which appointment he held for some time. In 1874 he left London to practise in the country at the request of his family, and held various union and other similar appointments until the end of 1890, when he went to Henley to practise in partnership with Dr. Allden and Dr. Smith. In 1893, at the request of a large number of the ratepayers of the borough, he was nominated as a candidate for the town council and was returned at the head of the poll without soliciting a single vote. Last year he was re-elected without opposition. While on the council he has been a member of the Drainage Committee in connexion with the new drainage scheme which has been successfully carried out. Latterly he has been chairman of the General Purposes Committee and has now been elected mayor of the borough having just completed the fourth year of office as a councillor.

MARLBOROUGH.

James Blake Maurice, M.D. St. And., F.R.C.S. Eng., is a Justice of the Peace for Wiltshire, and Surgeon to the Savernake Cottage Hospital, Medical Officer to the Somerset Hospital, Froxfield, and Surgeon to the Great Western Railway Provident Society.

PRESTON.

John Edward Dunn, M.R.C.S. Eng., L.R.C.P. Edin., was educated at the Preston Grammar School and was subsequently a pupil for five years of the late Dr. Wm. Smith, of Preston. For four years he studied at St. Thomas's Hospital, London, and has been in busy and active practice since qualifying. He is medical officer of the No. 6 district Preston Union and Public Vaccinator of the No. 1 district. Mr. Dunn is an ex-president of the Preston Medico-Ethical Society.

RUTHIN.

Job Medwyn Hughes, M.B., C.M. Edin., graduated in 1886. For six years he has held the appointment of medical officer of health for Ruthin rural district, and was put on the Commission of the Peace for the county of Denbigh in 1893. In 1892-93 he was appointed mayor, and has this year received the same honour.

SALTASH.

Robert Thornton Meadows, M.D., M.S. Edin., is the son of Surgeon-Major-General R. W. Meadows, retired. He studied at Edinburgh University and took the degrees of M.B., C.M. in 1885. After a trip abroad he started practice at Saltash, Cornwall, in March, 1887. He took the degree of M.D. Edin. in 1892 and D.P.H. Lond. in 1894. For several years Dr. Meadows was the medical officer of health to the Saltash Urban Sanitary Authority and has showed great energy in coping with small-pox. On Nov. 9th, 1897, he was unanimously elected mayor of the borough and J.P. for the county of Cornwall. Dr. Meadows, who is thirty-five years of age, is Surgeon-Captain 2nd Volunteer Battalion Duke of Cornwall's Light Infantry and holds the same rank in the Army Medical Reserve of Officers.

The following member of the dental profession has been elected Mayor of

CHELTENHAM.

Richard Rogers, L.D.S. Irel., re-elected Mayor of Cheltenham for the third time.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE thirteenth annual meeting of the Fellows and Members of the Royal College of Surgeons of England was held on Nov. 18th, the President, Sir WILLIAM MACCORMAC, Bart., taking the chair; twenty-eight Fellows (including seventeen Members of Council) and fifty-five Members were present.

The PRESIDENT welcomed the Fellows and Members present saing he had unfortunately been absent last year from causes beyond his control, and in placing before the meeting the report of the Council for the year ending July 8th, 1897, mentioned that many subjects of great

importance were dealt with in the report. For instance, on page 4 an account was given of the endeavour which the Council had made to ascertain the opinion of the Fellows on the question of the desirability of according to the Members of the College direct representation on the Council. An elucidatory statement had been prepared and the Fellows were requested to give their opinion on the direct representation of the Members and on the way in which it should be effected. On page 11 was an account of the action taken by the Council in the matter of the great prevalence of venereal disease among the British troops in India; they had sent an address to the Secretary of State for India pointing out the danger it threatened both to the army itself and to the nation. The Council had been informed by the Secretary of State for India that their opinion had proved of much value to him. A portrait of Lord Lister had been presented to the College, and the honorary medal had been awarded to Lord Lister and to Sir James Paget. The reconstruction of the lecture theatre had greatly increased the comfort of the seats. The museum and the library had been fully maintained, and the latter had been visited by more than 10 000 readers. During the year many who had held official positions in the College had been removed by death, and among them might be mentioned Sir John Eric Erichsen, Sir George Humphry, Sir Spencer Wells, Mr. Walter Rivington, and Mr. Oliver Pemberton, and they had also to regret the loss of their librarian, Mr. Bailey. With regard to the motions to be brought before the meeting he thought it advisable to say a few words. The sentence in the first resolution that "parts of the elucidatory statement are misleading" was not a matter of fact but a matter of opinion and therefore he would ask the mover and seconder of that resolution to insert the words "in the opinion of this meeting." As to the second resolution he would like to point out that the Council was certainly the only representative body in the College and therefore it must represent the Members as well as the Fellows. With regard to the third resolution he would say that medical aid associations vary very greatly in character and constitution, and therefore the Council after careful consideration had declined to lay down any general rule, but had expressed their willingness to decide on any individual case submitted to them.

Dr. THOMAS MORTON then rose to move the first resolution which, with the alteration suggested by the President, read as follows:—

That as in the opinion of this meeting parts of the "Elucidatory Statement" are misleading and do not adequately represent the facts which were further obscured by a circular issued under the auspices of a member of the Council the recent vote on Members' representation cannot be regarded as a satisfactory or final expression of opinion by the Fellows.

He disclaimed any wish to impute any intention to mislead to any individual member of the Council in the preparation of the elucidatory statement, but he would show that it was misleading. When the result of the voting was announced the Society of Members applied to the Council for a special meeting, but as the Council had declined to call such a meeting this was the first opportunity Members had had of bringing the subject forward. He felt sure that if the questions to the Fellows had been put in a fairer way the result would have been different. He pointed out that the intentions of the Members in applying for representation occupied only eleven lines, while the reply of the Council occupied twenty-six. In Section 3 it appeared as if Members were standing out for representation by Members only, but this claim had been distinctly given up when the deputation from the Society of Members met a committee of the Council. The letter mentioned in Section 3 was not quoted in full and so its meaning was apparently altered. Dr. Morton considered that the rule for the Council of the College should be that which was the rule for the General Medical Council—namely, that any Member of the College should be eligible for the Council of the College apart from his academical status. The College depended greatly on its Members for its income, and it was not fair to estimate the share contributed by the Members in the way this had been done in the circular. The College was not a trading body and its object in its accounts was not to show as large a balance as possible. It was quite true that the primary object of the College was the encouragement of the science and art of surgery, but it was, as Mr. Hutchinson had said, impossible for the College to separate itself from many questions which might be called political, and this was shown by the fact that many of the subjects dealt with in the report before the meeting were in no way associated with lofty science but were connected with important social questions of the day. The Members had an inherent right to representation and this could not be controverted by proving that they had no legal right; the Members as well as the Fellows were the lineal descendants of the members of the old Company of Surgeons and their right would be recognised in time. The admission of the Members to a share in the representation on the Council of the College would certainly benefit the College itself.

Mr. JOSEPH SMITH seconded the motion and contended that the elucidatory circular was utterly misleading.

Sir ROBERT CRAVEN mentioned that he had voted in favour of allowing the Members to be represented on the Council; but the adverse vote of the Fellows had made it necessary that a new charter should be obtained. Therefore he advised the Members to turn their attention to that.

Mr. W. G. DICKINSON asked that the names of those Fellows who had voted in favour of the representation of the Members should be published.

Mr. HENRY MORRIS congratulated the mover of the resolution on the very temperate tone of his speech and said that though he had always opposed the claims of the Members yet it had been his wish and the wish of every member of the Council to send to the Fellows an unbiased elucidatory statement, and he mentioned that there had been on the committee appointed to draw up that statement two consistent supporters of the claims of the Members. Most of the arguments in the circular advanced on behalf of the Members were taken from communications received from the Society of Members, and especially was that true of Section 3 to which reference had been made.

Mr. W. G DICKINSON said that he had written the letter which was quoted in the elucidatory statement, and his meaning had been that the Society of Members, though willing to be represented by Fellows, were of opinion that every member of the body corporate should be eligible.

The PRESIDENT then put the resolution to the meeting, and 31 voted in its favour and 1 against, and the resolution was declared to be carried.

Mr. GEORGE BROWN then moved the second resolution which was as follows:

That this meeting repudiates the claim put forward by the Council in its resolution of March, 1896, to represent "the Members as well as the Fellows," and again calls upon it to accord the franchise to the former.

He remarked that possibly the subject of the first resolution might be considered a matter of opinion, but this was a question of fact. The claim that the Council represented the Members as well as the Fellows was utterly baseless; perhaps it was intended to be facetious. The Council was elected by the Fellows only, so how could it represent the Members? Mr. Jonathan Hutchinson had said, "Do not the Members possess a moral right to representation on the Council—that is, a right founded upon justice? If an entirely new scheme were to be devised for the government of such a body as the College now is, with its thousands of Members and hundreds of Fellows, can anyone believe that the former would be wholly excluded from power?" He did not think that the representation of the Members would materially alter the constitution of the Council.

Dr. HERBERT SNOW seconded the resolution and compared the Members to taxpayers who were not allowed to vote; for the Members contributed more than £14,000 out of £25,000, which was the total annual income of the College.

Dr. WARD COUSINS pointed out that the resolution of the Council against which Mr. George Brown's motion was directed was by no means unanimous, for though 11 had voted in its favour 8 had voted against it.

Surgeon-Major INCE considered that the Members were on the high-road to obtaining representation on the Council. He thought it would be wise to extend the franchise to Members of twenty years' standing. He believed he was correct in saying that the majority of the Fellows were in general practice. On being put to the meeting the resolution was carried by 37 votes to 1.

Mr. W. G. DICKINSON moved the third resolution:

That this meeting, in view of the widespread public and professional evils induced by "Medical Aid Associations" and other companies trading in medical attendance, calls upon the Council to make a clear pronouncement for the information of Fellows and Members that the acting by qualified medical practitioners as the paid officials of any institutions which tout and canvass for patients or which allow the well-to-do classes to take advantage of rates of payment arranged to meet the necessities of the poor is "disgraceful in a professional respect" and deserving of censure.

He said he hoped that this motion would meet with more sympathy from the Council as it was not in any way in opposition to the Council. The matter was of the greatest importance; the harm done to medical practitioners by medical aid associations was incalculable, and this in conjunction with the overcrowded state of the profession was rendering the condition of the general practitioner unbearable. Then there was the very important consultation question. He did not on the whole object to the decision of the Council refusing to prohibit consultations with the practitioners serving under the medical aid associations, because the matter had to be looked at from the point of view of the public as well as from the point of view of the profession, but he considered that consultants would be less willing to give their services than they are if the College would speak definitely on the subject. The decisions contained on page 13 of the report were not what was wanted. In 1893 the Royal College of Physicians of Ireland expressed its disapproval of its Licentiates accepting appointments to medical aid associations. A case had occurred recently in which the medical man, a Licentiate of the Royal College of Surgeons in Ireland, attached to a medical aid association had resigned on receiving from his College a letter pointing out the impropriety of his holding such a post. In 1888 the Royal College of Physicians of London had declared it to be undesirable that any Fellow or Member of that College should hold a post in an association for treating patients for profit; but it would have been of more value if this resolution had applied also to their Licentiates.

Mr. BRINDLEY JAMES seconded the resolution and said that the lot of the general practitioner was very hard; his patients were taken from him by the medical aid associations, by the hospitals, and by the consultants.

Dr. BEVERLEY (of Norwich) said he was deputed by his professional brethren to thank the council for the action they had taken as mentioned on page 13 of the report, but also to express the great dissatisfaction they felt at the reply, for if the By-laws did not permit the Council to abate such evils as those described, then the By-laws must be altered.

Dr. ALDERSON considered the resolution of great importance to general practitioners; even such clubs as the Foresters did a great deal of harm.

Mr. MOXON (of Yarmouth) said the Council had expressed its sympathy with those who were injured by these trading associations; but they wanted more than sympathy, they wanted a clear pronouncement that the Council disapproved of this "sweating" of medical men.

Mr. GEORGE BROWN considered that it was clearly a matter of discipline; in the case already referred to, when a graduate of the College of Surgeons of Ireland had resigned on receiving the opinion of the College on his conduct, the medical aid association had been stopped. Why should not the College of Surgeons of England do what had been done by the College of Surgeons of Ireland?

Mr. ALFRED WILLETT asked that specific instances of the action of its members should be brought to the notice of the Council of the College. From beginning to end the Council had never had brought to its notice the conduct of any individual; the complaints had always been in general terms.

Surgeon-Major INCE said canvassing for patients was legal and could not be stopped.

The PRESIDENT before putting the resolution to the meeting said that the Council was very anxious to do its utmost in the matter, but it was useless merely to express a pious opinion; if a particular instance of canvassing for patients were brought to its notice with satisfactory evidence the Council would consider the case carefully.

The motion was carried and with a vote of thanks to Sir William Mac Cormac for presiding the meeting dissolved.

WATER-SUPPLY OF SALISBURY.—The Salisbury sanitary authority have recently submitted samples of the water-supply of that city for analysis. The analyst reports the supply of the city proper to be good and that of the Close fair; but he condemns the Wyndham-park district supply on the ground that it is contaminated with sewage. This is supposed to be owing to defective water-closet fittings, and consequently on Nov. 19th the sanitary authority cut off the water-supply at all houses where the existence of bad fittings made possible a communication between the soil pipes and the water service. Until these defects are remedied the inhabitants of these houses will be supplied from stand-pipes in the streets of the district.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Derbyshire County District.—The registration county of Derbyshire is not the administrative county presided over by the county council, and hence the valuable statistics of the former are not applicable to the latter. Dr. Sidney Barwise trusts that the necessary modifications will soon be effected, and that when the time for the 1901 census arrives there will be but one Derbyshire. There seems in the case of this county to be no serious difficulty in the way. Out of the population of the county no less than 95 per cent. are under the protection of the Notification Diseases Act, and Dr. Barwise thinks that the remaining 5 per cent. will remain obdurate until the Act is made compulsory. Among what may be the recalcitrant authorities we note with astonishment that of Matlock. The subject of infantile mortality is being attacked in a very practical manner by the people of Chesterfield, who have engaged a trained nurse to visit all houses in which births have recently occurred and there to offer advice as to the feeding and general management of infants. The nurse obtains each week from the registrar a copy of the births registered. In advocating greater stringency with regard to dairies, cowsheds, and milkshops Dr. Barwise refers to the excellent example set by the Corporation of Manchester, who, in advertising for tenders for milk, state that preference will be given to those who undertake that the milk shall be derived from cows which have been examined and tested by the tuberculin test by officers appointed by the corporation. This is certainly a decided step in the right direction. But little reference is made in the district reports as to the Factories and Workshops Act of 1895, and Dr. Barwise thinks that the Act will not be thoroughly enforced until local medical officers of health have proper security of tenure. The prevention of rivers' pollution in Derbyshire is making steady progress; but in several instances there is difficulty in arriving at the best means of sewage treatment. In connexion with this subject of the purification of sewage Dr. Barwise has prepared a special report which should be of much use to members of local bodies who are endeavouring to make themselves familiar with the questions upon which they are in large part called upon to decide.

Oldham Sanitary District.—During 1896 Oldham added a small-pox hospital to its equipment, and we may reasonably hope that no more will be heard of the baneful influence of the Westhulme Hospital when cases of small-pox were treated in it. Doubtless Dr. Niven, of Manchester, will read with satisfaction of this improvement in the district over which he formerly presided. Typhus fever is not yet extinct in Oldham, and last year there was a localised outbreak of this disease. There were seven cases and two deaths, one of the deaths, we are sorry to see, being that of a nurse who had attended upon the sick. Mr. Tattersall is far from being satisfied with the manner in which the notification of puerperal fever is carried out, and he states that in his own district no cases are reported unless death occurs or is thought to be likely to occur. Smoke abatement in Oldham has made some progress recently, and Mr. Tattersall tells us that there are fewer offenders now that the limit for black smoke is four minutes per half-hour than there were when this limit was nine minutes per hour. He thinks that if the limit was still further diminished the manufacturers would be capable of meeting it.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6744 births and 3967 deaths were registered during the week ending Nov. 20th. The annual rate of mortality in these towns, which had increased in the four preceding weeks from 16·9 to 19·0 per 1000, declined again last week to 18·6. In London the rate was 18·9 per 1000, while it averaged 18·4 in the thirty-two provincial towns. The lowest death-rates in these towns were 11·3 in Bradford, 13·4 in Portsmouth, 13·8 in Croydon, and 13·9 in Plymouth; the highest

rates were 21·3 in Sunderland, 22·1 in Burnley, 24·3 in Liverpool, and 24·7 in Leeds. The 3927 deaths included 462 which were referred to the principal zymotic diseases, against 412 and 461 in the two preceding weeks; of these, 159 resulted from measles, 67 from "fever" (principally enteric), 64 from diphtheria, 63 from whooping-cough, 52 from diarrhœa, and 1 from small-pox. The lowest death-rates from these diseases were recorded in Brighton, Plymouth, Preston, and Bradford, and the highest rates in Gateshead, Burnley, Halifax, and Blackburn. The greatest mortality from measles occurred in Burnley, Blackburn, and Halifax; from scarlet fever in Derby and Halifax; from whooping-cough in Newcastle-on-Tyne; from "fever" in Derby, Salford, and Huddersfield; and from diarrhœa in Gateshead. The 64 deaths from diphtheria included 37 in London, 6 in Liverpool, and 3 in Wolverhampton. One fatal case of small-pox was registered in Bristol, but not one in any other of the thirty-three large towns; and no small-pox patients were under treatment in any of the Metropolitan Asylum Hospitals. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of last week was 3792, against 3682, 3680, and 3777 on the three preceding Saturdays; 397 new cases were admitted during the week, against 416, 339, and 460, in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 363 and 420 in the two preceding weeks, declined last week to 414, and were 12 below the average. The causes of 47, or 1·2 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Bradford, Leeds, Newcastle-upon-Tyne, and in eleven other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Salford, Blackburn, and Halifax.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 18·8 and 20·1 per 1000 in the two preceding weeks, declined again to 18·5 during the week ending Nov. 20th, and was slightly below the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 16·6 in Dundee and 17·3 in Leith to 21·5 in Aberdeen and 22·1 in Perth. The 552 deaths in these towns included 19 which were referred to diarrhœa, 12 to measles, 10 to whooping-cough, 9 to "fever," 8 to scarlet fever, and 4 to diphtheria. In all, 62 deaths resulted from these principal zymotic diseases, against 70 and 64 in the two preceding weeks. These 62 deaths were equal to an annual rate of 2·1 per 1000, which was slightly below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of measles, which had been 12 and 7 in the two preceding weeks, rose again to 12 last week, of which 7 occurred in Glasgow and 5 in Greenock. The 10 deaths from whooping-cough showed a slight further decline from those recorded in recent weeks, and included 9 in Glasgow. The deaths referred to different forms of "fever" which had declined from 13 to 4 in the four preceding weeks, rose again to 9 last week, of which 8 occurred in Glasgow. The fatal cases of scarlet fever, which had been 18 and 11 in the two preceding weeks, further declined to 8 last week, and included 4 in Edinburgh, and 2 in Glasgow. Of the 4 deaths from diphtheria, 2 were recorded in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 142 and 161 in the two preceding weeks, declined again to 145 last week, and were 34 below the number in the corresponding week of last year. The causes of 36, or nearly 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had declined in the three preceding weeks from 28·2 to 19·8 per 1000, rose again to 23·3 during the week ending Nov. 20th. During the past seven weeks of the current quarter the death-rate in the city has averaged 22·8 per 1000, the rate during the same period being 17·6 in London and 18·6 in Edinburgh. The 156 deaths registered in Dublin last week showed an increase of 23 upon the number in the preceding week, and included 10 which were referred to the principal zymotic diseases, against 12 and 24 in the two preceding weeks; of these, 6 resulted from "fever," 2 from diarrhœa, 1 from scarlet fever, and 1 from diphtheria, but not one either from small-pox, measles, or whooping-cough. These 10 deaths were equal to an annual rate of 1·5 per 1000, the zymotic death-rate during the same period being 2·4 in London and 2·7 in Edinburgh. The deaths referred to different forms of "fever," which had been 8 and 10 in the two preceding weeks, declined again to 6 last week. The mortality from scarlet fever showed a marked decline, while the mortality from diphtheria corresponded with that recorded in the preceding week. The 156 deaths in Dublin last week included 33 of infants under one year of age and 38 of persons aged upwards of sixty years; the deaths of infants showed a marked increase, while those of elderly persons were slightly below those recorded in the preceding week. Eleven inquest cases and 8 deaths from violence were registered; and 46, or nearly a third, of the deaths occurred in public institutions. The causes of 12, or nearly 8 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ARMY MEDICAL STAFF.

SURGEON-MAJOR TIDBURY, M.D., has assumed Charge of the Station Hospital and troops at Winchester.

INDIA AND THE INDIAN MEDICAL SERVICES.

Surgeon-Colonel Bainbridge to be Surgeon-Major-General, vice Surgeon-Major-General Cook, deceased. Surgeon-Lieutenant-Colonel Arthur Tomes (Bengal) and Surgeon-Major Framji Ruttonji Divecha, 8th Regiment of Madras Infantry, retire from the service subject to Her Majesty's approval. Surgeon-Lieutenant-Colonel Martin, Civil Surgeon, who has been permitted by Her Majesty's Secretary of State for India to return to duty before the expiry of the leave granted him, is posted to the Hoshangabad District.

NAVAL MEDICAL SERVICE.

The following appointments have been announced:—Staff-Surgeons: Samuel W. Johnson to the *Liffey;* Samuel Keays to the *Devastation;* and Joseph R. M'Donnell to the *Trafalgar.*

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain Thomas Lyndon, M.D., having resigned his Volunteer appointment, ceases to belong to the Army Medical Reserve of Officers.

VOLUNTEER CORPS.

Artillery: 2nd East Riding of Yorkshire (Western Division, Royal Artillery): Surgeon-Lieutenant H. Robinson, M.B., to be Surgeon-Captain. *Royal Engineers* (Volunteers): 1st Middlesex: Henry Macnaughton Macnaughton-Jones, M.B., to be Surgeon-Lieutenant. *Rifle:* 4th Volunteer Battalion the King's (Liverpool Regiment): Surgeon-Major W. J. Fleetwood, M.D., to be Surgeon-Lieutenant-Colonel.

THE HEALTH OF THE RUSSIAN ARMY.

The report of the Russian Army Medical Department which deals with the health of the army during the year 1895 was recently issued and contains a large number of statistics of some interest. The average strength of the Russian Army in that year was rather over a million officers and men, the former numbering 40,356, the latter 981,256. Among the officers the percentage of attacks of sickness was 50·8, and the death-rate 0·64 (a death-rate, therefore, of 6·4 per 1000). Among the men the admissions to hospital were at the rate of 32·8 per cent. of the total strength, while the sick cases treated as out-patients were 175·8 per cent. The total sickness, rate was therefore 208·6 per cent., which is equivalent to saying that each soldier was reported sick more than twice in the year. This is slightly above the percentages of the last five years, which have been respectively 179·8, 183·8, 194·4, 207·3, and 200·8. The number of men incapacitated by sickness was 2·4 per cent. of the total strength and the total loss to the army by sickness and death was about 3 per cent. Among individual groups of diseases infectious disorders occupied the first place (69,850 treated in hospital) and diseases of respiratory organs the second (42,928 cases in hospital). There were 33,735 cases of venereal

disease admitted to hospital. Diseases of the respiratory organs caused a greater loss of strength to the army than any others; they affected 34·2 per cent. of the total number incapacitated by disease. Of the different divisions of the army those who suffered most were the prisoners in military prisons. Their attack-rate (80·8 per cent. of total strength treated in hospital) and death-rate (1·8 per cent) were treble the average for the whole army. This seems to point to sanitary defects in Russian military prisons. The following table is worth quoting:—

Branch of service.	Percentage of Sickness.*	Percentage of Deaths.	Incapacitated.
Infantry	36·6	0·64	2·60
Artillery	29·5	0·61	2·20
Cavalry	27·9	0·60	2·36
Engineers	27·2	0·57	2·40
Cossacks	27·1	0·47	1·90
All others	37·7	0·47	2·00

* Cases treated in hospital are alone considered in this column.

From these figures it appears that the Cossacks are the healthiest branch of the service and the infantry and others not specified the least healthy. The superior health of the Cossacks is further shown by the fact that the minimum total sickness-rate (including in- and out-patients) of the territorial divisions of the army occurred in the Don Cossack Province, where the rate was only 115·4 per cent. (the rate for the whole army being 208·6 per cent.). The highest sickness-rate was in Transcaspia, where it reached the high figure of 327·5 per cent. In St. Petersburg it was also high (271 per cent.). The highest death-rate was also in Transcaspia (0·98 per cent.), and the lowest in the Amur region (0·29 per cent.). Cholera occurred in the army only in the Kief district, where there were 344 cases and 94 deaths.

THE ROYAL NAVY LIST PUBLICATIONS.

Lean's Royal Navy List, published quarterly by Messrs. Witherby and Co., High Holborn, the October issue of which has reached us, deserves all the praise that has been bestowed upon it. To the Naval profession, the Press, and, indeed, to everyone who takes an interest in our first line of defence, it is an indispensable work of reference.

The Royal Navy List Diary and Naval Handbook for 1898 is a new publication issued by the same publishers, price 3*s.* The contents include a Summary of the Year's Naval Progress, by Professor J. K. Laughton, M.A., F.R.G.S.; the Navy Estimates for 1897–98, with Full Statistical and Comparative Tables; a Calendar of Notable Naval Events; the Naval Honours and Obituary for the Year, with the War and Meritorious Services of Deceased Officers; a Full Account of the Celestial Phenomena for 1898, with Notes and Tables of Tides, and Monthly Astronomical Ephemeris; Original Descriptive Articles on the Tides and Terrestrial Magnetism; Table of Stamp Duties and Fees; the Night Signals of the Principal Lines (revised to date); and a diary (a whole page to a day) with all the usual tables found in diaries. That the new venture will be a success there can be no doubt for such a book has long been wanted and the editors are to be congratulated upon the result of their labours.

VOLUNTEER AMBULANCE SCHOOL OF INSTRUCTION.

The twenty-first distribution of prizes will take place at St. Martin's Town Hall, W.C., on Dec. 9th, at 8.30 P.M., when Major-General H. Trotter will preside. There will also be a Bohemian Entertainment.

THE Hackney Vestry decided at their last meeting (on the 17th inst.) to appoint a lady sanitary inspector whose special duty it would be to look after the sanitary conditions of the workshops, workrooms, laundries, &c., where women and girls are employed.

MUNICIPAL MATTERS IN CARDIFF. — Dr. T. Wallace, J.P., has been re-elected on the free library committee of the Cardiff Corporation. Mr. J. L. Treharne, M.R.C.S.Eng., L.S.A., J.P., and Mr. A. Rees, L.R.C.P.Lond., M.R.C.S.Eng., have been placed upon the technical committee of the town council, and Dr. C. T. Vachell, J.P., has been elected upon the museum committee.

Correspondence.

"Audi alteram partem."

"DR. R. R. RENTOUL'S RESIGNATION OF MEMBERSHIP OF THE GENERAL MEDICAL COUNCIL."

To the Editors of THE LANCET.

SIRS,—Dr. Rentoul's manifesto to his late constituents, of whom I was one, enables the other side to be heard. I am strongly of opinion that Dr. Rentoul's return last December at the head of the poll was out of gratitude for past services and by no means because his constituents considered him the best direct representative of their interest on the General Medical Council. I know several who voted for him and while they admired his courage they disliked his methods and many of his supporters resented his contemptuous style of addressing his fellow practitioners. He is deficient in the *suaviter in modo*, and there never was a time in which this quality was in such demand as at present. Let us come to the point.

Dr. Rentoul says: "I resigned as I came to the finding that I could not accomplish any of my work as a member of the Council constituted and worked as it now is."[1] It is unnecessary to say that Dr. Rentoul knew all about this before he became a candidate, so that this reason falls to the ground. He is considered a fool who proceeds to build a house without counting the cost. Was it "honest" to undertake the duties which he admits in Paragraph 2 he was unable to fulfil? A second, although it is called the "first," reason in the text is advanced — viz., the loss of confidence, or what he calls the "desertion," of his constituents. What does Dr. Rentoul advance in support of this assertion? Why, of course, that his Bill for the Registration of Midwifery and other Nurses was ignored by 126 out of 129 medical societies to which he sent it. To a "practical" man this fact would suffice to demonstrate the impracticability of the Bill I drafted a Bill entitled, "The Sick and Obstetric Nurses' Bill," an outline of which appeared in THE LANCET before Dr. Rentoul's Bill was heard of, and MS. copies were sent on request to Mr. Skewes-Cox, M.P. (our local member) and the Midwives' Registration Society. I may have it printed before Parliament meets, but it will be at my own expense. It would be unreasonable to expect the profession to pay for the printing of an "unauthorised programme." This brings me to the next "reason" or want of "financial support," for Dr. Rentoul's resignation. This was news to me, as I distinctly understood that the fund collected by Dr. Alfred Cox, of Gateshead, early this year, covered Dr. Rentoul's expenses to date. Is this so or not? If so, who authorised Dr. Rentoul to incur a fresh "bill of costs" to the tune of £81 15*s.* which he now demands? Then comes another "reason" which is "second" in the text but "fourth" in order—viz., the hopeless state of the "five Direct Representatives" on the Council. Why should they "fail," and why above all should Dr. Rentoul say it, who boasts what he has done single-handed? They have not failed hitherto. Why should they fail in the future? Fancy a man coming forward to represent the profession whose policy was stamped with the word Failure. Is this "honest"? A man may do his duty and yet "fail" in the sense of securing his immediate object; but what says Lord Lytton of "failure" in one of his charming plays? What said Mr. Disraeli to the Commons who laughed him to scorn in his maiden speech? Lesser lights have striven successfully against enormous odds. The "failure" of Dr. Rentoul to hold his own at the Council table must not be allowed to deter other men from doing their duty and to justify their resignation, nor must his pleading for increased expenditure by the Council be allowed to palliate his offence of forcing the Council to squander hundreds of pounds in an unnecessary election, knowing that this money has to come out of the hard earnings of his fellow practitioners whom he now proposes to further tax with an annual registration fee!

Having dealt with Dr. Rentoul's "reasons" for resignation I have only to add in regard to his "pet schemes" for which more funds are asked that there must be some demand for

[1] THE LANCET, Nov. 20th, 1897, p. 1350.

such and proof that they are in the right hands before their author can be permitted to lay a further tax on the profession.—I am, Sirs, your obedient servant,

East Sheen, Nov. 20th, 1897. ALEXANDER McCOOK WEIR.

"THE DISINFECTION OF CLOTHING BY HEAT."

To the Editors of THE LANCET.

SIRS,—Will you kindly give me room for a few lines with regard to the article by Mr. Messiter published in THE LANCET of Nov. 20th, 1897, p. 1305.

Mr. Messiter very properly points out the advantages of current steam and of having some simple and portable form of current steam disinfector for certain public health purposes. Such a disinfector would be specially useful in places where no large disinfecting station exists or where it is desirable to carry out the disinfection of clothes, &c., at the houses of patients affected with infectious illnesses. He appears, however, to be quite unaware of the fact that both these desiderata have been met in Manchester for no inconsiderable time by means identical with those he recommends. He will find in Dr. Niven's report for 1895 full reference to this. It is remarkable that Mr. Messiter should have had constructed an apparatus which corresponds so closely with the one in use in Manchester that even the dimensions of the steam chamber are the same (within a quarter or half an inch). The mode of heating by petroleum furnace was introduced by me in 1894, not only on account of its convenience, cleanness, and cheapness, but also, and more especially, because I could find no other means to obtain rapidly the intense heat required to produce a very rapid ebullition of water, a factor which I consider of very great importance in steam disinfection. Mr. Messiter does not speak in his description of the means he uses for preventing the wetting of clothes by the condensation taking place on the sides of the steam chamber or of the ways in which he prevents the splashing resulting from sharp boiling. The quantity of water he recommends is the same as I have found after many trials to be the best. The method of drying clothes after disinfection is the same which has been taught to the sanitary inspectors in Manchester nearly two years ago.

Coincidences of this kind impress one as indicating the soundness of the method if they come from two absolutely independent sources. In justice, however, to Dr. Niven and myself I think it right to mention the fact that Mr. Messiter recommends methods which we have used in laboratory or public work for at least three years.

I am, Sirs, yours faithfully,

SHERIDAN DELÉPINE,
Professor of Pathology, Owens College,
Nov. 22nd, 1897. Manchester.

To the Editors of THE LANCET.

SIRS,—Professor Delépine having shown me a letter which he is about to send to you in reference to a paper on "A Mode of Disinfecting Personal Clothing at Home," by Mr. A. F. Messiter, M.R.C.S. Eng., which appeared in THE LANCET of Nov. 20th, 1897, p. 1305, I have to confirm his statement that Mr. Messiter's machine, in its shape and dimensions, in the means of heating, and in the purpose for which it is being introduced, is identical with a disinfector invented by Professor Delépine. Professor Delépine's disinfector contains a novel application of physical laws (not to be found in the description of a machine given in Mr. Messiter's article), and its working was demonstrated to the sanitary inspectors of this city over eighteen months ago, by whom it has since been used.

I am, Sirs, yours faithfully,

JAMES NIVEN,
Manchester, Nov. 23rd, 1897. Medical Officer of Health.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Nov. 20th, Mr. Messiter, medical officer of health to the Isle of Axholme District Council, illustrates an apparatus for disinfection of clothes by heat. As I had myself long felt the need of a somewhat similar portable apparatus I exhibited a model of one in the Section of State Medicine, Dublin, in April, 1896, a short description of which you were good enough to give in THE LANCET of May 16th, 1896, p. 1359. I afterwards sent the model to Professor Gairdner, of Glasgow, who forwarded it for exhibit to the medical officer of health of Glasgow. Each medical man in doing battle against the possible conveyance of contagion should be is own detective officer, and should with the most intense energy guard his coming puerperal patient with all the means that lie within his reach against scarlatinal or other poison. Our responsibility in this should make us tremble, as I fear we are indirectly the cause of some deaths. Every man, *paid or unpaid*, ought to be an honest, independent, and courageous sanitary worker.

I am, Sirs, yours faithfully,

Londonderry, Nov. 20th, 1897. WALTER BERNARD.

LOCALISATION AND MEASUREMENT BY X RAYS.

To the Editors of THE LANCET.

SIRS,—With reference to an article on the above subject in THE LANCET of Oct. 16th, of which I was a joint author, and with reference also to other means of localisation which have been suggested before and since, I beg to point out that whether a mechanical or a mathematical method be adopted the necessary apparatus need be only of the very simplest description. The primary requirement is of course a small steady stand to carry the focus tube and allow of horizontal and perpendicular adjustment. This stand may be either of the "Bridge" pattern—i.e., two small perpendicular pillars (with heavy bases) joined by a horizontal bar, the latter capable of being raised and lowered and permitting of lateral displacement of the tube—or it may be the "sliding tube holder" described by Mr. Payne.[1] In any case the horizontal bar must be provided with a knife edge bearing three shallow notches, a central and two lateral ones, the latter equidistant—say, two and a half inches—from this centre. These notches mark respectively a centre and the limit of the lateral displacements of the tube. In the further steps described in the above-named article it is evident that this same stand and these same notches permit of a perpendicular being dropped from the centre one, whilst the two lateral notches now carry the threads which represent the path of the x rays. In other words, the necessity for a second piece of apparatus is avoided—a pair of compasses, a spirit level, and a foot rule complete the equipment. Those who have become accustomed to associate x ray localisation with a formidable arrangement of stands, screws, and spirit levels, reflecting mirrors, cast-iron retouching desks, and yards of millimetre scale, may rest assured that they will lose little in time and nothing in accuracy if at the expense of a few shillings they avail themselves of the simple apparatus I now advocate.

I am, Sirs, yours faithfully,

W. S. HEDLEY, M.D. Edin.
Mansfield-street, Cavendish-square, W., Nov. 23rd, 1897.

"A NOTE ON CYCLING."

To the Editors of THE LANCET.

SIRS,—In the two able and interesting letters that have appeared in THE LANCET of Nov. 13th and 20th the writers make no reference to the two distinct methods of leaning forward: (1) the spine may be bent forward with a stoop of the shoulders; or (2) the pelvis may be rotated and the spine inclined forward without bending and with the shoulders back. Those who have studied river-rowing consider the former method unsightly and injurious while the latter is practised by all skilled oarsmen. To my thinking the same holds true in cycling. The bent back and stooping shoulders are certainly unsightly and the position seems to cramp the chest. On the other hand the body swung forward from the hips, with the back straight and the shoulders back, to my eye is graceful; the position allows freedom to the chest-wall and at the same time the rider gains the mechanical advantage that a forward position certainly gives. There is perhaps more danger of perineal pressure, but this would be avoided if the cycle makers would make a hard saddle with a low peak instead of the very unsatisfactory yielding leather hammock now in use.

I am, Sirs, your obedient servant,

Ottery St. Mary. O. CLAYTON JONES, M.B. Oxon.

[1] Archives of the Roentgen Ray.

"THE PREHENSILE POWER OF THE HANDS OF THE HUMAN INFANT."

To the Editors of THE LANCET.

SIRS,—Mr. Freeman calls attention in THE LANCET of Nov. 20th (p. 1348) to the absence of sexual differentiation in the young human embryo and adds: "The early embryological sexual attributes to which I have drawn attention most probably point to a hermaphroditic ancestry." I fear I cannot agree with him for the simple reason that the embryo even at that stage is far too highly developed for it to be probable that its prototype in the phylogeny was hermaphroditic. It would be as reasonable to suppose because the human infant cannot easily digest anything but milk that therefore it has descended from ancestors who lived exclusively on that diet. This by the way; but the sentence I have quoted betrays on Mr. Freeman's part so far-reaching a belief in evolution that it is difficult to understand why he has recourse to the "special-creation" hypothesis to explain the presence of the prehensile reflex in the infant hand. Granting the truth of the theory of evolution, it affords a sufficient explanation of the fleeting resemblance which the embryo presents in certain particulars to lower forms of life, and to seek additional explanation of that which is already sufficiently explained is suicidal from a logical point of view.

I am, Sirs, faithfully yours,

Southsea, Nov. 21st, 1897. G. ARCHDALL REID.

"A TESTIMONIAL TO DR. JOHN T. ARLIDGE."

To the Editors of THE LANCET.

SIRS,—You will much oblige by inserting in THE LANCET the following further list of subscribers to the testimonial to Dr. J. T. Arlidge.—I am, Sirs, yours faithfully.

CHARLES F. MOORE.

10, Upper Merrion-street, Dublin, Nov. 23rd, 1897.

	£	s.	d.
Mr. T. W. Nunn, F.R.C.S. Eng.	3	3	0
Mr. Lionel Beale, M.B., F.R.C.P. Lond.	5	5	0
Mrs. Naomi Daltry ...	1	1	0
Rev. T. W. Daltry	2	2	0
Mr. J. W. Moore, M.D. Dub.	1	1	0
Mr. J. Gimson...	1	1	0
Mr. Thomas Oliver, M.D. Glasg.	1	1	0
Mr. Jno. Alcock, J.P. ...	2	2	0
Mr. William Dawkins Cramp, H.M.S.I. ...	5	0	0
Lady Manningham Buller	10	0	0
Mrs. F. Paddock	2	2	0
Surgeon-Major J. G. Gibbs, M.D.	2	2	0
Mr. D. Lloyd Roberts, M.D. St. And.	2	2	0

THE BUYING POWERS OF TEN POUNDS.

To the Editors of THE LANCET.

SIRS,—I beg leave to bring to your notice some remarks that appeared in the *Willesden Chronicle* apropos of the tendency lately displayed by public bodies to get their medical advice for nothing. The late chairman of the Willesden School Board recently invited medical men to attend at the schools and examine the children gratis, and I regret to say that some men have actually accepted the offer. The board of guardians have recently requested their medical officer in future not to perform any more operations for which they are under contract to pay him according to the Local Government Board schedule, but to send all cases to St. Mary's Hospital as they contribute £10 per annum to that institution, for which sum Mr. Ryan has undertaken to meet the surgical requirements of a parish of close upon 100,000 inhabitants. As most of the guardians are retail traders it is not surprising to find that they are under the impression that they are simply paying the market price of the services rendered at St. Mary's Hospital. In fact, one of them expressed the opinion that they would not be doing their duty to the ratepayers if they paid anything for what they could easily obtain for nothing. I think this is very significant and it is not necessary for me to point the moral. The remedy for this state of things is in the hands of the profession itself. When is it going to wake up and seek its own salvation? I am, Sirs, yours faithfully,

Willesden, Nov. 23rd, 1897. STRUGGLING PRACTITIONER.

*** We print our correspondent's letter but we doubt if his information as to any undertaking on the part of the hospital named is correct.—ED. L

THE EPIDEMIC OF TYPHOID FEVER AT BELFAST.

(FROM OUR SPECIAL COMMISSIONER.)

THE Belfast epidemic presents itself to the observer under two different and distinct aspects. On the one hand there is a sharp, rapidly developed epidemic extending only over a portion of the suburban district of Ligoniel. Then there is on the other hand a more slowly developed, but more persistent, prevalence of typhoid fever in the town of Belfast itself. As opposed to the experience of Ligoniel typhoid fever in Belfast is not restricted to one particular district or to one particular water-supply but exists in all parts of the town. To judge from the facts at present available we seem to be in the presence of a water-borne epidemic occurring side by side with another epidemic which does not appear to be due to the water-supply. Your Belfast correspondent has already described how Dr. Biggar has traced the Ligoniel epidemic to a contaminated spring. This district has recently been added to the city and it was only on Oct. 23rd that the Belfast Water Commissioner obtained jurisdiction over the Ligoniel water-supply. Dr. Biggar is the medical superintendent officer of health of the Belfast board of guardians; and this board of guardians is the rural sanitary authority for the districts lying outside the boundaries of the borough of Belfast. On Oct. 20th, Dr. Biggar was informed that there had been about forty cases of typhoid fever occurring during the previous five days in the upper end of the village of Ligoniel. These persons derived their milk-supply from ten different sources but their water-supply came from one and the same spring. On the other hand the inhabitants of the lower part of the village, though living if anything under worse sanitary conditions, had a different water-supply and they were not suffering from typhoid fever. The whole district has a population of about 5000, but it is only about half of this population that received the incriminated water and there have been more than a hundred cases of typhoid fever among them. How the water was contaminated has already been described. It is not necessary to go over the details again. I may add, however, that the reservoir which is supposed to have been polluted measures some fourteen by six feet and is about six feet deep. The little stream which pases by a cottage where there has been a case of typhoid fever delivers at this point about 600 to 700 gallons of water daily. A great part of this water sank into the field just above the reservoir and disappeared. The subsoil is of limestone. There may be fissures and the water from this brook may have freely mixed with the water of the spring that supplies the reservoir. As the typhoid dejections were thrown out on the garden of the cottage close at hand it is not difficult to see how the contamination may have occurred. In any case, Dr. Lorrain Smith, of Queen's College Pathological Laboratory, has examined this water and reports that he found it was contaminated and he has been able to isolate the typhoid bacillus.

The first measure was to construct a dam across the stream so that the water flowed down the other side of the hill and could no longer reach the field where it was supposed to have mixed with the water of the spring. But this could not be continued as it affected the riparian rights on the stream which had thus been diverted from its usual course. Iron pipes were therefore laid down to convey the water past the field and below the reservoir. This done it was possible to restore the water to its usual channel. At the same time this water-supply was cut off during the space of twenty-four hours. The water that came into the reservoir from the spring was pumped out as fast as it entered, and the reservoir was carefully cleaned out. There is no longer any means by which the water which now comes into this reservoir can mix with the water from the brook, for the brook water flows past in the iron pipes that have just been provided for that purpose. As a result presumably of these measures the epidemic seems to be decreasing.

On the other hand it is not so easy to account for the numerous cases of typhoid fever which have occurred in the town of Belfast. The water-supply is certainly not above suspicion; but it is, in any case, as safe as, indeed safer than, that of London. Dr. Percy F. Frankland, in

a report on the subject dated Oct. 13th last says: "By far the greater part of the metropolis is supplied with water drawn from the Rivers Thames and Lea, which drain areas incomparably more densely populated and more highly cultivated than are the gathering grounds of the Belfast supply. In the valleys of the Thames and Lea above the intakes of the London supply typhoid fever is certainly at all times present among the population." Yet the typhoid fever mortality in London for the ten years from 1881 to 1890 only averaged 1·9 per 10,000 of the population, and this is much below the average of ten out of fourteen large English towns which are reputed to have water-supplies above suspicion. Dr. Frankland then adds the following argument: "If London, which is supplied with water initially far more exposed to contamination than is that of Belfast, exhibits no excess of typhoid fever mortality but, on the contrary, a very low average death-rate from this disease it is difficult to see why the water of Belfast, which is submitted to the same treatment of storage and filtration as is that supplied to London, should be credited with the communication of this disease, more especially as the Belfast water is subjected to a far more prolonged storage than is the case with any of the water supplied to London. It is particularly noteworthy, in connexion with water-borne epidemics of typhoid, that these have in almost all cases occurred through contamination of water, which was supplied generally without storage and almost invariably without filtration." Dr. Frankland, in support of this contention quotes the evidence he gave before the Royal Commission on the London water-supply (1892) concerning the West Middlesex Waterworks. He then showed that unfiltered Thames water from Hampton contained 1437 bacteria in a cubic centimetre. After passing through one storage reservoir this same water contained only 318 bacteria, and after a second storage 177 bacteria per cubic centimetre. In a previous report on the water-supply of Belfast, dated July 24th last, Dr. Frankland says: "With storage capacity the Belfast supply appears to be well provided, both the Woodburn and Stoneyford waters being subjected to a protracted period of quiescence in the large reservoirs bearing these names. A slight defect in this storage system I have already referred to—viz., the admixture of some unstored water with the stream below the Woodburn reservoirs. The benefits of storage are also to some extent neutralised in this portion of the supply by passing the water from these reservoirs through an open stream clothed with vegetation instead of exclusively through a closed culvert. The Belfast water-supply is further provided with a most admirable series of filter beds constructed on the most approved principles and worked with great care and attention.' This latter includes the allowing of a considerable amount of water to run to waste whenever a filter bed has been cleaned, so that there may be time for the slime deposit to form itself on the surface of the sand before the water is distributed for drinking purposes. The result of these measures was that in the worst sample 96·6 per cent. of the bacteria in the unfiltered water had been removed, and in the best sample 98·8 per cent. had been removed. In spite of these good results it is at least theoretically possible that the water might be contaminated, but Dr. Frankland concludes in his last report that "it appears in the highest degree improbable that the typhoid now prevalent in Belfast should be chargeable to the water as sent out to the consumer." To this he adds that as there are two water areas it is not likely that both would be simultaneously contaminated; and, if one only was contaminated, then the fever, instead of being spread all over the town, would be limited to the district provided by that supply.

In spite of these reassuring utterances, a strong impression prevails that the water is the cause of the epidemic. It is argued that Dr. Frankland was not fully informed as to all the circumstances. Thus it is a mistake to say that there are two separate water-supplies. The gathering grounds are quite separate, but the waters meet together and are mixed at the filter beds. Consequently Dr. Frankland has been called to Belfast for a third time and a list of sixteen farm houses has been given to him where the drainage from the stables, manure heaps, houses, &c., discharges either into the subsoil or the adjoining small water courses which are all situated on the Stoneyford gathering ground supplying Belfast with drinking water. At the commencement of the year there were four cases of typhoid fever in one of these farm houses, and it is urged that it was only after these four cases on the gathering ground that the fever became so general in Belfast. But here we are face to face with a difficulty. The cases at this farm, if I am rightly informed, occurred last January and the compulsory notification of infectious diseases only came into force last March. In the month of January 33 cases of typhoid fever were voluntarily notified and in February 14 cases. Now in the month of March when compulsory notification came into force 215 cases of typhoid fever were reported. The figures for the following months were as follows: April, 289; May, 527; June, 262; July, 172; August, 304; September, 379; and October, 354. Thus from January to the end of October we have a total of over 2000 cases notified as typhoid fever. There is every reason to believe that some errors in diagnosis have been committed. This is shown by the fact that a good number of the patients were up and well and attending to their business two or three days after they had been reported to the medical officer of health as suffering from typhoid fever. What, however, is still more significant is the fact that the number of deaths registered as due to typhoid fever do not at all correspond with the number of cases said to have occurred. There were 12 deaths in January, 19 in February, 16 in March, 35 in April, 40 in May, 35 in June, 9 in July, 30 in August, 27 in September, and 33 in October. Since then 9 deaths were reported for the week ending Nov. 6th, and 5 deaths for the week ending Nov. 13th. This gives us for the year and up to Nov. 13th 270 deaths from typhoid fever. But typhoid fever is endemic at Belfast, there having been 145 deaths from that disease in 1894, 184 in 1895, and 136 in 1896. Thus we may say that typhoid fever is much more prevalent this year than usual; but the difference is not so startling as to justify the belief in the presence of some very exceptional cause. If the water had been unusually contaminated we might have expected a greater number of deaths and a more uniform distribution of the disease. Though there are cases in all directions still the great majority are confined to two districts widely apart—namely, the high-level Shankhill and Crumlin district, and the low-level district on the other side of the water known as the Ballymagarret and the Newtownwards-road district. Then in the first, the Shankhill district, there are the barracks, the prison, and the union workhouse, with some thousands of inhabitants drinking the same water and yet escaping from the fever.

What, then, are the causes of the present prevalence of typhoid fever at Belfast? This is a complex question with which I cannot venture to deal till I have carried my investigations farther afield. But I may at least say this much, that not only is the soil unfavourable, alluvial and moist, but it is highly contaminated by some 20,000 cesspits that still exist in the town. Many of the houses cannot be approached from behind so that the contents of the cesspits have to be carried through the kitchens and the inhabited parts of the houses. A vast section of the population is singularly careless as to sanitary matters. Proper precautions are rarely enforced and there is little or no skilled nursing. The climate also is very damp and the flax spinning in which a large section of the population is occupied is unhealthy work. But all these are matters which I must discuss more fully when I have had the time to collect more evidence. For the present I must content myself with saying that I have not yet come across sufficient proof to be able to conclude that the present exceptional prevalence of typhoid fever in Belfast is due to a general contamination of the water-supply; but that there is much to show that the condition of the subsoil, the want of proper drainage, and the habits of the people are all well calculated to facilitate the spread of such a disease as typhoid fever.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Drainage Prosecution.

AN important prosecution under the city by-laws as affecting drainage was heard at the Police-court recently. A builder submitted plans for the erection of a number of houses which were disapproved by the corporation owing to certain defects. Again and yet again the plans were rejected. The houses were put up without the proposed alterations, hence the action by the corporation. It was stated that there was one inlet and one outlet for each house instead of two,

and only one trap for the six houses. In accordance with the by-laws each house should have a separate connexion with the main drain. For the defence it was alleged that previously to the appointment of the present city surveyor the corporation allowed blocks of houses to be drained with one trap. An expert stated that in his judgment there was no sanitary defect in the plan followed and that a different interpretation was placed upon the by-laws to that previously existing. The Bench held that the by-laws had been broken and fined the defendant 20*s.* and costs, granting a case for appeal. Besides the question of legal interpretation of the by-laws the construction of the drainage from a sanitary point of view is important. Authorities appear to differ upon this arrangement, some considering that the system of interception traps are an unnecessary evil. An authoritative solution of this difficulty would go far to dispel the apprehension which exists as to the best plan of drainage for dwelling-houses, more especially in the face of prevalent enteric fever cases.

The Police and Assaults.

The repeated advice given by magistrates to the police as to the use of the staff in self-defence is prudent and judicious. They are recommended not to be aggressive, and when force is necessary to take care that they shall not strike the heads of their assailants with truncheons. This is no doubt wise as a sentiment of calm and reflective consideration from the bench. In the excitement of a street row under extreme provocation and often personal injury human nature is apt to assert itself and blow to be returned for blow. A police officer was lately convicted of viciously assaulting four men in a crowd and was sentenced to one month's imprisonment. The officer had been previously knocked down twice and kicked, when he got up in a sort of dazed way and ran amok among the crowd of bystanders. Some efforts have been made to obtain an appeal on the ground that an injury to the head such as the constable received frequently causes irresponsibility of immediate action. While recognising the danger of this plea in many instances it would appear probable from subsequent evidence that this might be reasonably allowed in this particular case, and I am glad to say that an appeal has ultimately been admitted, the necessary recognisances being entered into. Justice demands that the circumstances should be fairly and fully investigated on behalf of the police as well as for the protection of the public.

The Catacombs of Christ Church.

Under the recent Birmingham Churches Act the building of Christ Church is to be removed and the site sold. Under the church are catacombs containing 137 bodies, very few of which have been claimed by their descendants. The celebrated Baskerville is buried here. Failing sufficient interest with the surviving relatives these bodies will be removed to Wilton Cemetery for interment, that of Baskerville being reserved for St. Philip's Churchyard in the centre of the town of his labours.

Nov. 23rd.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Guardians and Chemical Odours.

PROBABLY in Oliver Twist's time nothing would have been done to protect him from bad smells but it must be acknowledged that no smells then existed which could be compared for sickening persistency with those now provided abundantly by the ingenuity and liberality of some of our chemical manufacturers. So shockingly offensive are these smells that the Prestwich guardians have asked the Manchester guardians to join them in a deputation to the sanitary committee of the Manchester Corporation "to direct attention to the nuisance which was caused by the smells from certain chemical works." It is no wonder that the two boards should act together in this matter, as the Prestwich and Crumpsall workhouses are near neighbours. As regards nuisances chemical manufacturers seem to be especially prominent. They are among the most diligent in the production of black smoke, and so highly do they value their proficiency in this art that they seek for greater privileges than are allowed to other manufacturers, while they are unrivalled in the skill with which they concoct bad smells and distribute them to the unfortunates who dwell around. No doubt something has been done in various places to put partial restraint on them, but there are well-known instances in Manchester where all such efforts have been evaded or defied. The practical applications of chemical science must be defective when the result is an almost unendurable nuisance, and it is time that the offenders should be compelled to have more regard for the comfort and well-being of others than they now exhibit, and they might as a change apply their science to the prevention instead of the production of bad smells.

Manchester Children's Hospital.

On Nov. 13th many of those interested in the Manchester Children's Hospital assembled at St. Anne's-on-the-Sea to take part in the formal opening and presentation of a convalescent home by Sir Wm. Agnew, president of the hospital. By his munificence in building and also in the equipment of this home a need long felt has been relieved. It is amply provided with ground for extension and stands some sixty or eighty yards from the coast line. There is accommodation for twenty-five boys and girls as well as for a matron, two nurses, and two servants. The Rev. S. A. Steinthal said that Sir William Agnew had that morning given £500 towards the endowment and that £350 or £400 a year would be required for the maintenance of the home. This will no doubt be found, for the hospital has many friends.

The Coachman with Medical Instincts.

The medical profession is familiar with many varieties of irregular competition, but it is comparatively rare that the medical man's coachman turns practitioner. That such a thing does happen sometimes is shown by the evidence given at an inquest held by the Manchester city coroner on the 17th inst. as to the death of a child three days old. At the birth a nurse and the uncle of the child's father—"who was considered very clever at the game"—were present. It was given in evidence, according to the newspaper report, that he was acting as assistant to a medical man, and when Mr. Smelt, the coroner, told him he had a distinct recollection that he was the late Mr. Pettinger's coachman the man acknowledged that it was so. It is a little hard on Dr. Nichol, a well-known practitioner in the neighbourhood, that he should be opposed by Mr. Nicholls—sometime coachman, now accoucheur — however clever he may be "at the game," and it seems to be a case which deserves inquiry by the Manchester Medico-Ethical Association. The coroner observed that "a person who knowingly engaged an unqualified man had to be content with the outcome," but the profession generally should not be content when such scandals are possible. The medical man does not seem to have been present at the inquest.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Social and Sanitary Society of Edinburgh.

THE annual meeting of this society was held in Edinburgh on Monday. After the report for the past year had been read and adopted Dr. Brock, the medical officer of health of Midlothian, spoke at some length on the milk question. He emphasised the necessity of a pure milk-supply and pointed out the liability to infection with tuberculosis and other infectious diseases through the milk-supply. Tuberculosis was responsible for one-seventh the total deaths in that country and dairy cows were tuberculous to the extent of from 20 to 50 per cent., so that it was necessary to make every effort to eliminate this source of infection. The disease might be communicated by cream, butter, cheese, and buttermilk, as well as by milk. To ensure a non-tuberculous milk-supply it was necessary that the animals should be systematically tested with tuberculin and that all the tuberculous cows thus discovered should be weeded out of the herds. To guard against infection with scarlet fever he thought various precautions necessary. The dairy buildings should be removed from the neighbourhood of dwelling houses, the milk should go straight from producer to consumer, and the people employed about a dairy should be regularly inspected by a medical man. He advocated the formation of a dairy company with the view of providing a pure milk-supply. He showed how much good

could be done by workers of the society if as well as distributing leaflets they would enter the houses of the poorer classes and demonstrate to them how to render milk innocuous by sterilisation. Dr. Brock then moved a resolution that the society pledges itself to use all means in its power to further the necessary reforms in connexion with the milk-supply. The resolution was adopted.

Edinburgh Royal Infirmary.

At the meeting of the managers of the Royal Infirmary held this week the treasurer and clerk submitted a report on the income for the financial year. The ordinary income from all sources amounted to £30,620 2*s.* 11*d.*, being a decrease of £62 14*s.* 3*d.* as compared with last year. The extraordinary income showed the large increase of £4390.

Edinburgh Royal Physical Society.

At the first meeting of this society held last week Professor J. Struthers delivered an address on Rudimentary Structures and their meaning in Man and in Certain Animals. In the course of the address he said that one occasionally meets among those who have studied human anatomy only with persons who believe in the utility of every structure and in the independent origin of every species. He therefore would mention a few easily understood examples of structures occurring in man and animals no longer useful, but merely vestigial remnants, modifications of previously existing structures. He specified as belonging to this category the vestigial hind limb in the whale, the teeth of the young whale, and the vestiges of lateral toes in the horse. He spoke also of the vermiform appendix and of Meckel's diverticulum in this relation and concluded with a quotation from Darwin.

The Western Infirmary Dispute at Glasgow.

No public announcement as to the exact position of this controversy has yet been made, but it is known that negotiations between the managers and the University authorities are at present in progress and it is reasonable to hope and even to expect that a satisfactory issue will be the result. The annual meeting of the subscribers to the infirmary has to be held during the present week and the managers will in the report they submit to that meeting be almost compelled to define and defend their policy. The absence of any official statement has not, however, prevented certain echoes of the controversy from reaching the public ear. Thus Professor Gairdner has written to the press in reference to the statement prepared by Dr. J. B. Russell for the Faculty of Physicians and Surgeons. Professor Gairdner endeavours to negative Dr. Russell's contention that the University has attempted to encroach upon the clinical facilities and teaching offered by the infirmary. He does not, however, meet the specific instances quoted by Dr. Russell in support of his position but contents himself rather with a general negative to Dr. Russell's affirmation. No one for a moment believes that Professor Gairdner personally desires any unfair advantage or doubts his generous recognition of the work and ability of the non-collegiate clinical teachers, but whether the corporate influence of the university has been applied in this spirit is fairly open to question. That as the infirmary has been enlarged some physicians and surgeons have been appointed to the visiting staff who are not University professors without serious opposition from the University is surely no proof of the generosity of the latter body seeing that their four professors of medicine and surgery were already provided with wards, and some of the elections just referred to were not quite free from opposition from University quarters. Professor Macewen's position is being strongly supported by the *Glasgow Herald* and the controversy is being used with a view to raise certain aspects of the question of infirmary management. In none of the Glasgow infirmaries is there any representation of the staff on the board, and in each, too, the superintendent is a medical man. It is now being contended that in both of these respects the management ought to be altered and from certain movements which are in progress there is reason to believe that an organised agitation in support of this view is to be instituted. The only other incident in connexion with the controversy that falls to be noted is the publication of a letter signed by the majority of the visiting staff expressing appreciation of the manner in which they have always been treated by the managers and the superintendent. Professor Macewen's name is not appended to this document, nor is he the only absentee, and probably the names of those who have abstained have attracted more attention than the actual signatures.

Glasgow University.

At the September meeting of the University Court a letter was read from the Universities' Commission in answer to a memorandum from the court dealing with the proposal to confer disciplinary or penal powers on the University so far as its graduates are concerned. The effect of the letter was that the Commissioners declined to deal with the matter, regarding it as outside the scope of their powers. The court made the following appointments: Mr. L. R. Sutherland, M.B., C.M. Glasg., lecturer on pathology for the present academic year during the absence of Professor Coats; Mr. G. Burnside Buchanan, B.A. Cantab., M.B. Glasg., to be assistant to the professor of clinical medicine, vice J. C. Renton, M.D. Edin., resigned; and Professor Young and Professor Barr to be governors of the West of Scotland Technical College. Mr. R. Barclay Ness, M.A., M.B. Glasg., has been appointed an assistant to the professor of medicine.

Nov. 24th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Royal College of Surgeons in Ireland.

THE examination for the Fellowship of this College has recently concluded, when six candidates were adjudged to have passed the primary portion and one the second and final part. The recent regulation by which students who have passed the second professional examination of the College or the half M.B. examination of the Dublin University are entitled to present themselves for the primary examination for Fellowship was taken advantage of by three candidates who had fulfilled the necessary conditions—namely, two students of the medical school of the College and one of the Dublin University.

Typhoid Fever in Dublin.

Although the general death-rate of Dublin has recently been more than usually satisfactory the deaths due to zymotic diseases have been above the average. What may be called an epidemic of typhoid fever now prevails at the north side of the city. A large number of cases have been admitted to the Mater Misericordiæ Hospital, while many of the trained nurses from that institution are employed in the treatment of patients suffering from typhoid fever in the immediate neighbourhood. The disease seems to have first appeared in the recently-built Mountjoy station of the Metropolitan police, where no less than seven men out of the twenty-four in the force there were attacked. It was first surmised that the soil on which the new building rests might have been infected by sewage. Sir Charles Cameron has, however, been actively investigating the matter and seems to have traced the outbreak to an institution which supplied milk to the police-station and in which there have been a number of cases of enteric fever which were never notified, the Act for the Notification of Infectious Diseases not being in force in the district. It has now been ascertained that ninety cases of typhoid fever have recently occurred in this particular suburban district not far removed from the city boundary. At the last meeting of the guardians of the Drumcondra township a letter was read from the medical officer of health, Mr. Nedley, referring to the prevalence of fever at the north side of the city, and stating that after visiting and examining at the request of the board a certain house which was said to be in an insanitary condition he had come to the conclusion that the infection must have been conveyed from outside their area which was healthy at present.

The Apothecaries' Hall of Ireland.

The list of examiners in medicine, surgery, and midwifery, appointed by the Governor and Court of the Apothecaries' Hall of Ireland has just appeared. The names should be a guarantee that the examination for this old-established license will for the future be properly conducted.

The late Dr. James Cagney.

Dr. Cagney had many friends in Dublin who were shocked and grieved by the news of his untimely death. The Irish Medical Schools' and Graduates' Association in London will find it very difficult to adequately fill his place.

The Typhoid Fever Epidemic at Ligoniel.

There have been eight fresh cases notified and three deaths since my last report. At a meeting of the board of guardians held on Nov. 16th a member of the board of guardians stated that he had visited the district of Ligoniel and had found a very serious state of affairs. In Lower Ballysillan some 300 people were supplied with water which passed through an open tank from which cattle were allowed to drink. He had also found that there were some ninety-seven houses in the upper end of Ligoniel with only two dry closets for all the inhabitants. He characterised it as a most scandalous state of affairs. The Water Commissioners are at present laying a 6 in. main, and in the course of about two weeks it is hoped that the objectionable tank will be removed. It was decided to refer the question of the houses which are without closets to Dr. Bigger and Mr. Milligan. Ligoniel is certainly in a most insanitary condition.

Prosecution in Belfast under the Public Health Act.

On Nov. 16th a woman was fined in Belfast for allowing her niece to go to school while suffering from typhoid fever. The child was sent to attend an examination. The case was brought forward for the purpose of letting the public know that such an offence could not be tolerated.

The Mater Infirmorum Hospital, Belfast

On Nov. 22nd the Right Honourable the Lord Mayor of Belfast opened a bazaar in the Ulster Hall, the object of which was to aid the executive committee of the Mater Infirmorum Hospital in providing a large balance of the total estimated probable outlay of £50,000 required to complete the buildings and equip this new hospital. The Roman Catholic Bishop presided and there was a very large attendance of the friends and supporters of the charity, and it is hoped that a large sum of money will be realised. The new Mater Infirmorum Hospital is now nearly completed and will be a most desirable addition to the charitable institutions of the city. Situated on the Crumlin-road with a frontage of 230 feet it occupies an area of slightly over one acre. The hospital which is built on the "pavilion" system has a centre administration building, with two lateral blocks for the patients. It is planned for 137 beds and 8 cots for children. The buildings are of red brickwork with stone dressings, the compartments are heated by steam and lighted by electricity, and everything that modern science and the latest experience could suggest has been done to make the hospital complete in every respect. A novel feature is the introduction of garden roofs for the use of convalescent patients. They cover the great pavilions and are well protected and sheltered. It is expected that the new Mater Infirmorum Hospital will be open for patients early in the new year.

The Belfast Royal Hospital.

At the quarterly meeting of this hospital held on Nov. 22nd Dr. Lowry, Dr. Mateer, and Mr. Montgomery were elected senior and junior house surgeons and house physician respectively.

Death of Dr. O'Connor, of Ballycastle.

Extreme regret is felt amongst his wide circle of friends in the medical profession and amongst the public at the death at a very advanced age of Dr. G. Matthew O'Connor, of Ballycastle. Educated in Dublin where he graduated M.B. of Trinity College in 1842, Dr. O'Connor spent the greater part of his life in Ballycastle, where he was medical officer of the workhouse and where he enjoyed an unusually large practice. Dr. O'Connor was a man of the most refined nature and of the most kind and gentlemanly character. His long experience and training made his opinion a most valuable one, and it is given to few medical men to be so thoroughly respected by their patients as Dr. O'Connor was. His death leaves a great blank in the roll of the older members of the medical profession in Ulster, and of no man can it be said with more perfect truth than of Dr. O'Connor that he earned the respect, the esteem, and the confidence of every one with whom he was brought into contact.

Nov. 23rd.

ON Monday, Nov. 22nd, the Cambridge Graduates' Club of St. Bartholomew's Hospital held their annual dinner at Frascati's Restaurant. The Vice-Chancellor of Cambridge University, Dr. Alexander Hill, was in the chair. Seventy-five members and guests sat down to dinner and the evening was in every way a great success.

ROME.

(FROM OUR OWN CORRESPONDENT.)

Opening of the Annus Medicus.

THE University of Rome was opened for the winter by Professor Giovanni Battista Grassi who holds the chair of comparative anatomy and whose high reputation, enhanced by the English Royal Society having awarded him the Darwin medal for the best recent vindication of the law of evolution, attracted a numerous and distinguished audience. His discourse which occupied more than a hour had for its subject, "Critica della Filosofia Zoologica" and in a series of rapid but luminously effective side-glances went round the whole circle of the biological sciences. In none of these, he said, can the student afford to be a specialist, zoology itself having relations more or less intimate with all, which in turn are in varying degrees its debtors. In illustration of this last assertion he showed what physiology and biology have of late years owed to zoology, particularly in the "diramazioni" (ramifications) of the embryonal cell and he took occasion to eulogise the discoveries in this field by the Italian Camillo Golgi and the Spaniard Ramon Casali. A masterly survey of "bio-mechanics" (the mechanism of development), a science yet in its infancy, led up to the doctrine of man's rise and progress. As a theory—nay, as a law—evolution is inexpugnable, but it cannot solve the mystery of animal origin. As to its own vindication it must appeal to something more conclusive than "the struggle for existence." Darwinism and Neo-Darwinism are at best provisional bulwarks of the theory requiring still the "sussidii della zoologia" (the reinforcements of zoology) to enhance their sufficiency. From this stage Professor Grassi proceeded to illustrate the "exclusively critical character of zoological method" and made typical applications of it to anthropology and psychology, showing that what in the lower animals are "instincts" become specialised in men into "powerful impulses directed to the good, the beautiful, and the true." Thus far the zoologist can go without running the risk of trenching on the domain of metaphysics. Nature-study (physics in its largest sense) must be disjoined from metaphysics, and should the "fisico" (nature-student) arrive at intuitions which tend to enlighten the "metafisico" it is his duty "to express himself with caution." In the business of life and in applied psychology the zoologist remains an inadequate guide. In illustration of this position Professor Grassi ably examined the relations between zoological method and religion, anarchy, and socialism. The study of the instincts constrained to the belief that from society as now constituted religion cannot be excluded, while in their own interests Catholics have come to admit that it is not heretical to suppose that the human body is derived from some antecedent animal. They have ceased to declare war against the law of evolution. A rapid incursion into the troubled waters of "criminal anthropology" brought the lecturer alongside Lombroso and his school, with whom he declared himself in sympathy provided they made their science really sound and socially useful, "ricorrendo al positivismo dell' analisi zoologica." Similar was his attitude towards modern socialism while making large deductions from its premature ideals. "Given the progress of every created being, man tends to the integration of intelligence, to the knowledge of things in their essence. Herbert Spencer, judging ours to be a period of 'eccessivo perfezionamento,' foresees the break-up of existing society from the débris of which will germinate the new era. But faith in our ideals," contended the orator, "will have power to save us from this decadence and from all such moral eclipse." The above is the merest outline of a discourse which, highly condensed and fraught with "pregnant epigram," was yet listened to with profound attention till its close when a loud and long outburst of applause gave vent to the feelings of the audience. In its published form it will doubtless provoke criticism and stir up controversy, but as to its ability and grasp of scientific results and tendencies there will be but one opinion. The University of Rome, I may add incidentally, was more numerously frequented last year than in any preceding one. This year, too, it makes an excellent start with 927 law students, 854 medical, 306 in physics and mathematics, 250 in literature and philosophy; 2337 in all.

The Serum against Yellow Fever.

Professor Sanarelli (a correspondent tells me) delivered on the 14th ult. in Montevideo a lecture before an audience of medical practitioners and students on "Immunità contro la Febbre Gialla," in the course of which he showed that the serum of the blood of the human subject dead from yellow fever if injected into animals manifests no preventive power against the bacillus icteroides, while the serum of the blood of convalescents from the fever possesses a mild preventive action. Although, he continued, the simultaneous injection of the serum of convalescents and of the virus did not save from death yet a fatal issue was avoided in most cases when the injection of the serum was made, twenty-four hours before that of the virus in the dose of at least "due centimetri cubi." Professor Sanarelli added that the human serum obtained from sundry individuals in normal condition and convalescent from other maladies, although administered in high doses, never produces in animals the slightest preventive or curative action. Wishing to immunise animals against experimental yellow fever he had to abandon rabbits and after them goats and lambs on account of their excessive sensibility even with minimum injections of the virus. His experiments accordingly were restricted to guinea-pigs, dogs, and horses. He began by injecting the icteroid toxin in the dose of 0·01 c.c. The crisis of the first injection being over—a crisis lasting from twenty to thirty days—injections were made of 0·05 c.c. of toxin, and continuing at this rate he succeeded, only after six or seven months, in obtaining one guinea-pig well "vaccinated" against the bacillus icteroides. The dog and the horse respond much better to injections of the virus than the guinea-pig. At present Professor Sanarelli has in his laboratory three dogs and two horses well "vaccinated" which have yielded serums giving perfect immunisation against the experimental yellow fever in animals. On the strength of these experimental facts Professor Sanarelli says that in all likelihood—not to say certainty—this very serum which saves animals destined to succumb almost without exception to experimental yellow fever might be useful in the treatment of spontaneous yellow fever occurring in man, while possessing, moreover, a distinct preventive action against the disease.

Nov. 20th.

Obituary.

JAMES CAGNEY, M.D. R.U.I., M.R.C.P. LOND.

IT was with great regret that we announced last week the death of Dr. James Cagney at the early age of thirty-eight. Dr. Cagney carried out as usual the arrangements in connexion with the dinner of the Irish Medical Schools' and Graduates' Association which took place so recently as Nov. 2nd, but it was then noticed by several of his acquaintances that he was very unwell. He promised that he would take rest and advice on the following day, as a temperature of 102° F. suggested that he was suffering from influenza; the sequel showed, however, that while he had been trying to shake off a vague malaise by cycling and golfing, he was really entering the second week of an attack of typhoid fever which, as our readers already know, proved to be fatal.

James Cagney was born at Cork in 1859, his father being a well-known merchant in that city whilst on his mother's side he was descended from military medical officers through several generations. Coming of a Roman Catholic family he was educated at Ushaw, whence he passed with a high place in honours the London Matriculation Examination at the age of sixteen years. At Queen's College, Cork, where he went on leaving school, he distinguished himself in classics at the intermediate examination in arts and headed the list of candidates in mental and moral science at the M.A. degree. Having taken degrees of M.D., M.Ch., and M.A.O. in 1883 he made two voyages as a ship's surgeon, one to Australia and another to the Pacific. After these—that is, in 1885—he came to London for a course of post-graduate work at St. Mary's and St. Thomas's Hospitals. At the former he studied neurology in particular, and when Dr. De Watteville resigned his appointment as medical officer in charge of the Electro-therapeutic department of the hospital in 1890 Cagney succeeded him. From 1886 to 1894 he was also one of the demonstrators of anatomy at the St. Mary's Hospital Medical School. In 1889 he was elected physician to the Regent's Park Hospital for Epilepsy and Paralysis and in 1893 he was appointed assistant physician to the North-West London Hospital. At the time of his fatal illness he was in attendance at all three hospitals and his triple duties occupied no less than five afternoons in each week. He carried the same enthusiasm into other ramifications of his professional career. He was a regular attendant at the medical societies and two years ago he was secretary to three simultaneously, viz.: the North-West London Clinical Society, the Harveian Society of London, and the Irish Medical Schools' and Graduates' Association. What he did for the latter as its metropolitan secretary by his tact and energy is well known to all Irish medical men practising in England. Some years since one subject loomed largely on the Association's programme—namely, the ineligibility of Fellows of the Irish colleges to positions on the staffs of English hospitals. Dr. Cagney's exertions to obtain better treatment for his countrymen can be appreciated only by those who were actively associated with him in the work. He was himself a member of the Royal College of Physicians of London and was moreover connected with a metropolitan teaching hospital where there are no restrictions with regard to the source of the qualifications of the members of the staff, so that there was no question of his fighting for his own hand.

Dr. Cagney was a frequent speaker, mostly on neurological subjects, at meetings of the medical societies, and his words were always interesting and well chosen. His best piece of experimental research was in reference to the effect of suspension on the vertebral column, carried out in the dissecting room and post-mortem room at St. Mary's Hospital. This was inspired by the suspension treatment of locomotor ataxia so much in vogue about the years 1889 and 1890. In two papers, one read before the Royal Medical and Chirurgical Society and the other before the Anatomical Society and published in the Journals of those societies for 1890, Cagney clearly showed by a number of ingenious dissections and experiments that the effect of swinging and hanging postures on the vertebral column was to relax, not to stretch, the spinal cord. He contributed various papers to our own columns and those of other medical journals on Peripheral Neuritis, and at the time of his death he was engaged in collecting material for a small book on this subject. The three editions of "Clinical Diagnosis" which he translated and edited from the German of von Jaksch took Dr. Cagney into an altogether different field of medical thought, and the appreciative reviews which have from time to time appeared in this and other journals have testified to the skill with which he translated that work and to the judgment he showed in the incorporation of only the best English methods of research which were not contained in the original German edition.

James Cagney impressed all who came in contact with him as being a man of culture and high intellectual capacity. Those who knew him marvelled how, in spite of his many professional ties, he managed to find time for the discharge of the duties of an active volunteer—he was Surgeon-Captain of the "Artists,"—for golf, cycling, shooting, and numerous social engagements. But he appeared to lead his full life with ease and to make friends wherever his handsome presence and distinguished manner were to be met with.

A large circle of personal acquaintances (some 300 in number) attended the requiem mass which was offered St. James's, Spanish-place, on Monday, Nov. 22nd. Among those present were Lady Matthews, Judge Bacon, Sir William Broadbent, Dr. W. J. Collins, Dr. Frederick Roberts, Dr. Sydney Phillips, Mr. P. J. Freyer, Mr. W. H. Battle, and Dr. G. William Hill.

CUTHBERT WYMAN, M.D. CANTAB., F.R.C.S. ENG.

DR. CUTHBERT WYMAN, of Putney, who died on Nov. 21st as the result of an attack of pneumonia, was a distinguished student of St. Thomas's Hospital, where he gained the Solly Medal and held several resident appointments. He graduated as M.A. and M.B. at Cambridge University in 1891 and as M.D. in 1895; he became a Fellow of the Royal College of Surgeons of England in 1892. He recently gave a lecture on

India before a large audience in Putney, the proceeds, amounting to about £50, being handed to the Indian Famine Fund. Baron Pollock, who died on the same day as Dr. Cuthbert Wyman, was in the chair at the delivery of this lecture. Dr. Cuthbert Wyman was very popular in the district and will be much missed.

ALEXANDER MONRO INGLIS, M.D. EDIN.

DR. INGLIS, of Montpellier Lawn, Cheltenham, died in London on Nov. 20th. He studied medicine in Edinburgh, graduating as M.D. in the university there in 1854, and many years ago settled in Cheltenham where he became physician to the General Hospital and eventually had an extensive practice. On resigning his hospital appointment, being then the senior physician, he was elected consulting physician. Dr. Inglis became a Licentiate of the Royal College of Surgeons of Edinburgh in 1854, and a Member of the Royal College of Surgeons of England in 1858. His death is deeply regretted by his numerous friends.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. A. Sheffer, Professor of Medical Chemistry in the University of Kieff.—Dr. Poisson, Professor of External Pathology in the Poictiers Medical School.—Dr. Chenantais, formerly Professor of Clinical Surgery in the Nantes Medical School.—Dr. Jacquemet, Professor *agrégé* in the Montpellier Faculty of Medicine.—Dr. Cristino Cebrian, Professor of Anatomy in the University of Salamanca.—Dr. Jazenko, Emeritus Professor of Surgery in the University of Kieff.—Dr. A. Bykow, formerly Principal of the Warsaw Medico-Chirurgical Academy.

SOUTH-WEST LONDON MEDICAL SOCIETY.—The second meeting of the current session was held at the Town Hall, Wandsworth, on Nov. 10th, the President, Mr. T. A. I. Howell, being in the chair. Mr. P. J. Freyer read an interesting paper on the Modern Methods of Diagnosis of Stone in the Bladder, giving a *résumé* of 900 cases and showing the instruments employed in the treatment of these diseases. A cordial vote of thanks was awarded to the lecturer at the close of the meeting.

FOREIGN UNIVERSITY INTELLIGENCE.—*Albany (Medical College):* Dr. Geo. Blumer has been appointed Assistant Professor of Histology, Pathology, and Bacteriology.—*Baltimore (Medical College):* Dr. Wm. E. Moseley has been appointed Professor of Gynæcology in succession to Dr. Ashby.—*Berlin:* Dr. Richard Greef has been appointed to the charge of the Ophthalmic Department in the Charité Hospital vacant by the death of Professor Burchardt.—*Greifswald:* Dr. Egon Hoffmann, *privat-docent*, has been promoted to an Extraordinary Professorship of Otology.—*Groningen:* Dr. Reyenga has been appointed Professor of Midwifery and Gynæcology in succession to Dr. Dödeshein who goes to Tübingen.—*Heidelberg:* Dr. Walter Petersen has qualified as *privat-docent* in Surgery.—*Königsberg:* Dr. Jaeger has qualified as *privat-docent* in Hygiene.—*Missouri:* Dr. W. Ophüls, Second Assistant in the Göttingen Pathological Institute, has been offered the chair of Pathological Anatomy and Bacteriology.—*Munich:* Dr. O. Krummacher has qualified as *privat docent* in Physiology.—*Rostock:* The names selected for the Ophthalmic Chair vacant by the death of Professor Berlin are—(1) Dr. Axenfeld, of Breslau; and (2) Dr. Greef, of Berlin.—*St. Petersburg (Military Medico-Chirurgical Academy):* Dr. V. Grusden has been recognised as *privat-docent* in Midwifery.—*Tübingen:* Dr. Eugen Wintenitz, *privat-docent* of Midwifery and Gynæcology, has been promoted to the rank of Extraordinary Professor.—*Turin:* Dr. Scipione Vinaj, of Modena, has been recognised as *privat-docent* of Hydrology.—*Vienna:* Dr. Alois Kreidl, Dr. Hans Rabl, and Dr. Karl Ullmann have been recognised as *privat-docenten* respectively of Physiology, Histology, and Dermatology with Syphilography. Dr. Siegmund Fuchs has been appointed Extraordinary Professor of Physiology. Dr. J. Rille has been appointed to take charge of the Dermatological Department of the Policlinic.—*Warsaw:* Dr. Edward Przewoski has been appointed Extraordinary Professor of Pathological Anatomy.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

TUESDAY, NOV. 23RD.

THE sixty-third session of the General Council of Medical Education and Registration was opened to-day in the offices of the Council, Oxford-street, London. Not only was the President, Sir RICHARD QUAIN, absent, but there were several vacant places around the table.

The Health of the President.

Sir DYCE DUCKWORTH said that perhaps he might be permitted in a very few words to express the feelings they all entertained at that moment on seeing the presidential chair unoccupied. They all knew the cause of their President not being there and he was sure they were all deeply sorry for it. They had at all events the satisfaction of knowing that though he was unable to be amongst them yet his mind was clear and keen and he was with them in spirit. He believed that their President was fully aware of every item of business that was down upon their programme and that he would be deeply interested in all they did. This was about the twenty-fifth meeting of the Council at which he (Sir Dyce Duckworth) had been present and he could not recollect a single occasion—and certainly not an opening meeting—at which Sir Richard Quain was not present in his place either as an ordinary member or as President of the Council. That was a remarkable record and they knew that Sir Richard had been for a longer period than that a member of the Council. In his absence he proposed that Sir William Turner, chairman of the Business Committee, occupy the chair. Members would all recognise that Sir William Turner, by his great business capacity, his urbanity, and his great knowledge of the affairs of the Council was well qualified to perform the duties of their chairman.

This proposition having been seconded and adopted Sir William Turner took his place in the chair and the business of the session proceeded.

Introduction of New Members.

Sir CHRISTOPHER JOHN NIXON, the successor of Sir JOHN BANKS in the representation of the Royal University of Ireland, was formally introduced by Dr. Bennett and took his place at the table.

Mr. VICTOR HORSLEY, the new direct representative for England in succession to Dr. Rentoul, was formally introduced by Dr. Glover.

Letter from the President.

Mr. ALLEN, the Registrar, read the following letter which had been received from the President—viz.:—

67, Harley street, London, W.,
Nov. 23rd, 1897.

DEAR COLLEAGUES,—I deeply regret that—though my health is improved—I cannot undertake the risk of presiding at your meetings during the present session, and if it be your pleasure I shall be glad if Sir William Turner, the Chairman of the Business Committee, will discharge for me the duties of the office. Since the last session of the Council, notwithstanding my illness, I have continued, with the valuable assistance of the officials of the Council, to give close attention to its business; and I think you will find on the present occasion that the various matters that will be placed before you are in as complete and forward a state as usual.

To some of the subjects that appear on the programme I should like to draw your special attention. It is a source of great satisfaction to me to be able to announce that some progress has been made with regard to the question of disciplinary or penal powers exercised by the various licensing bodies. Following the example of the University of Cambridge, the University of Durham has now obtained a Charter under which it has the power of taking away any degree from a graduate who has been convicted of a crime for which he has been sentenced to penal servitude or imprisonment. Similar steps, I am informed, are being taken by the Victoria University, its Court having decided to make an application for the necessary amendment of its Charter, so that in a very short time that university also will be in possession of extended powers. In Scotland, also, some further steps have been taken in regard to this question. The Edinburgh University Court has again considered the question of obtaining power to remove from the Roll any graduate who may be found guilty of a criminal offence or other misconduct; and the Court has decided to intimate to the other University Courts that while remaining of opinion that the difficulties of the question are very great it is willing to confer with the other universities and to appoint representatives to a joint committee which might report to the various Courts. The Court of the University of Glasgow also, on July 8th, 1897, adopted a

memorandum in which it expressed its willingness to take joint action with the other Scottish Universities, and suggested to the Universities' Commissioners that although the Commissioners regarded the subject of additional disciplinary powers as not within their province it might be possible for them to leave on record in their final report an expression of opinion in regard to it; but in reply the Commissioners appear to have adhered to their former opinion and state that they have no Parliamentary powers to deal with the question nor any instructions to report upon it. The Universities of Aberdeen and St. Andrews will, no doubt, be prepared to adopt a course of action similar to that taken by Edinburgh and Glasgow. There is the one remaining case of the Royal University of Ireland, from which no information has been received as to any steps taken to obtain additional powers.

With regard to the new edition of the British Pharmacopœia, I have much pleasure in informing the Council that the arduous and important work of preparation that has now occupied about three years, is well-nigh finished. The work is now practically complete, every question of principle having been decided; and if the Council will accept the draft which will be placed before them in the course of the present session it will only be necessary to allow a short time for putting into action certain legal details, so that it might be confidently expected that the work may be published at an early date.

The Council will be aware that during the recess Dr. Rentoul, who had been elected as one of the Direct Representatives for England, suddenly resigned, and it became necessary to hold a new election. As many members of the Council were absent from home at the time the arrangements for this as well as the responsibility had to be entirely undertaken by myself. The election resulted, as members know, in the return of Mr. Horsley at the head of the poll.

The number of penal cases engaging the attention of the Council at the present session is larger than usual, but I have no doubt that the Executive Committee will be able to arrange that the hearing of these cases may interfere as little as possible with the consideration of educational and other equally important subjects. The question of medical aid associations has received the careful attention of the committee appointed to consider it. A report on the subject will be submitted to the Council, the evidence obtained by the committee having been already placed in your hands. Other important reports will also be presented by the Education Committee on the subject of preliminary examinations, by the Executive Committee on the resolutions of the Council in regard to the employment of unqualified assistants, and by the Dental Education and Examination Committee in regard to the recommendations of the Council to the dental licensing bodies.

Again expressing my regret at not being able to be with you at this session—the first from which I have been absent during a period of thirty-four years—and trusting that I have clearly indicated the nature of the business to be brought before your attention,

I remain, yours faithfully,

RICHARD QUAIN.

The CHAIRMAN said the members were aware that it had been the habit of the President to open the business of the session with an address, and that after the address had been delivered it had been moved that it appear on the minutes. This always had been agreed to. They had not to-day an address from the President, but they had the communication which had just been read, and he felt sure that he was speaking the sentiments of the Council when he proposed that this communication should appear upon the minutes. He should like to say that as chairman of the Business Committee he had been during this month and a portion of last in frequent communication with the President as to the arrangement of the business and he should like to bear out the statement that the President's mind was as intellectually active as ever it was and that he had got a thorough grasp of all the details of the business that had to come before them on this occasion. He should like also to state from the chair that he was sure the Council would deeply sympathise with the President in his enforced absence and in his prolonged illness. He moved that this communication be entered on the minutes.

Mr. TEALE seconded the motion, and it was at once adopted.

On the motion of Sir DYCE DUCKWORTH, seconded by Mr. BRUDENELL CARTER, it was agreed—

That in accordance with the desire of the President, expressed in his communication to the Council, Sir William Turner, the chairman of the Business Committee, be requested to discharge during the present session the duties of the chair.

The Service Examinations.

Statistical tables were received showing results of competitions—(*a*) for commissions in the medical department of the Royal Navy, held on May 17th, 1897; (*b*) for commissions in the Medical Staff of the Army, held in August, 1897; and (*c*) for commissions in the Indian Medical Service, held in July, 1897.

Dr. HERON WATSON, seconded by Sir RICHARD THORNE, moved:—

That the thanks of the Council be conveyed to the Director-General of the Medical Department of the Royal Navy, to the Director-General of the Army Medical Department, and to the Examining Board of the Medical Department of the Indian Medical Service for the statements they have respectively furnished to the Council of the degrees, diplomas, and licences of the candidates for commissions in those departments of Her Majesty's Service of the dates mentioned, showing the numbers of vacancies to be competed for, the numbers that did and did not pass, the number obtaining commissions, distinguishing the qualifications, both medical and surgical, under the several licensing bodies, and indicating the subjects in which those who did not pass were found to be deficient; with the request that these returns may in future be continued to be furnished to the General Medical Council.

Dr. GLOVER pointed out that the returns were conspicuous for the want of information as to the number of vacancies competed for. If they were to believe the newspapers the state of the Army Medical Department was alarming, and he thought that this Council was one of the bodies which should have most immediate, complete, and specific information as to the point. Therefore, although he did not propose to move any amendment, he could not thank the Director-General of the Army quite so much as he would have done had he given the Council a little more light. Perhaps a request might be made for more information on this particular point. As to the general information given it seemed to him very satisfactory. Judging from the rejections it did not appear by any means that men of inferior character came before either the navy or the army medical authorities.

Dr. HERON WATSON reminded Dr. Glover and the Council generally that these returns were a matter of favour and not of right. As to what they contained he thought that a good deal might be read in between the lines, and he could not help thinking that the returns might be of considerable value to the inspectors of examinations.

The motion was then agreed to.

Preliminary Education.

Dr. HERON WATSON, seconded by Sir RICHARD THORNE, moved:—

That it be remitted to the Examination Committee of the General Medical Council to consider and bring up a report during the present session upon the letter of date June 16th of the present year from the Director-General of the Army Medical Department, in which he conveys to this Council the expression of his regret that he is unable to accede to the request (namely, that he should notify to this Council where the preliminary examination in Arts has been passed and the date of such preliminary examination of any candidate who may have evinced marked deficiency in preliminary education on the occasion of his examination for admission to the Army Medical Department), as there are, to his mind, serious objections to dealing with this subject in the manner proposed.

Dr. Heron Watson said that in the letter there was an indication of what probably was the source of the objection of the Director-General, and he thought it would be well to have the matter discussed in committee in the first instance.

Sir DYCE DUCKWORTH said it would be a matter of considerable interest and usefulness if the Council expressed an opinion on this subject. The point was that this Council wished to reach the bodies who passed candidates in preliminary arts examinations under what must obviously be very insufficient conditions, and very few opportunities presented themselves of ascertaining what those conditions really were unless they had to deal with the examinations of candidates who had already got diplomas. The examining bodies entirely washed their hands of all responsibility in the matter and threw it upon the General Medical Council. They told the Council that it was its business to see that the candidates who enter the medical profession were properly prepared by undergoing a liberal education. If the Council put them upon the Register as medical students the bodies washed their hands of all further responsibility as to the general educational attainments of the candidates who presented themselves. They had thought that by discovering defects in candidates either for the Navy or the Army or the Indian Service they might bring home to the bodies that the examinations these candidates had passed must be of an inferior order. Some of the candidates sent in papers that were perfectly disgraceful, showing that any best in their case must have been altogether inadequate. They wished to get from the army and navy authorities some clue by which to reach the bodies who passed such candidates, and he was sure the examination committee would be glad to know what was the feeling of the Council on the matter. He thought the Council should go into the matter and that it was its business to investigate and supervise and be thoroughly satisfied as to the quality of the preliminary examinations.

Dr. MACALISTER endorsed what Sir Dyce Duckworth had said, adding that the Council ought to be able to trace the source of the preliminary education. At present they were hampered by some scruple on the part of the Director-General, but he thought that they should make another and vigorous effort to get at the root of the matter.

The motion was then adopted by the Council

The Employment of Unqualified Assistants.

The Council agreed to receive and enter upon the minutes the following Report from the Executive Committee on the Council's resolutions on the employment of unqualified assistants pursuant to the following resolution :—

That it be referred to the Executive Committee to consider whether the Council's resolutions on the employment of unqualified assistants, as they appear in the advertisements inserted in the medical journals, may not with advantage be rendered clearer and more stringent.—Minutes, vol. xxxiv., p. 90.

REPORT BY THE EXECUTIVE COMMITTEE ON THE GROWTH OF OPINION OF THE GENERAL MEDICAL COUNCIL IN REGARD TO THE EMPLOYMENT OF UNQUALIFIED ASSISTANTS AND ON "COVERING UNQUALIFIED PERSONS."

(Prepared by Mr. BRYANT.)

(1) On April 21st, 1883 (Minutes, vol. xx., p. 91), the General Medical Council passed the following resolution as proposed by Dr. CHAMBERS and seconded by Mr. SIMON :—

That the following resolutions, passed by the Council in Committee, be received and adopted :—

(*a*) That the Council ask for legislation to the effect that any registered practitioner practising for gain, who knowingly and wilfully deputes a person not registered or qualified to be registered under the Medical Act to professionally treat on his behalf, in any matter requiring professional discretion or skill, any sick or injured person, shall be subject to the same legal liabilities as a person who falsely represents himself to be a legally qualified medical practitioner, but with special proviso that such enactment shall not hinder any duly regulated training of pupils in medical schools or otherwise by legally qualified practitioners, nor the use of trained pupils in partially treating the sick or injured under the direction, supervision, and responsibility of such practitioners, nor any legitimate employment of nurses, midwives, or dispensers.

(*b*) That communications be entered into by the Council with the Registrar-General with the view of procuring such amendments of the Registration Act of England as will diminish the present frequent evasions of the Act in the certification of causes of death.

(*c*) That the Council record on its minutes, for the information of those whom it may concern, that charges of gross misconduct in the employment of unqualified assistants, and charges of dishonest collusion with unqualified practitioners in respect of the signing of medical certificates required for the purposes of any law or lawful contract, are, if brought before the Council, regarded by the Council as charges of infamous conduct under the Medical Act.

(2) On Nov. 20th, 1886, the Council determined that steps be taken with a view of making the above resolution more public; accordingly, on July 25th, 1887, the Executive Committee ordered it to be inserted twice at an interval of a month apart as an advertisement in the medical journals.

(3) On Nov. 24th, 1887, a case of the misemployment of an unqualified assistant was brought before the notice of the General Council and adjudicated upon; and the registered practitioner concerned, having been informed of the grave disapprobation with which the Council regarded his conduct, promised at once to discontinue the practice condemned.

(4) On Nov. 26th, 1887, the General Medical Council passed the following resolution :—

That it be referred to the Executive Committee to consider under what circumstances a registered medical practitioner would render himself liable to the censure of the Council in reference to the employment of unqualified assistants.

(5) On Feb. 27th, 1888, the Executive Committee, pursuant to this resolution, without attempting to make a formal definition of the misconduct in question, reported to the General Council that, in its opinion,—

A registered medical practitioner would render himself liable to the censure of the Medical Council in case of the employment of an unqualified assistant in the practice of medicine, surgery, or midwifery on behalf and for the benefit of such registered practitioner, either in complete substitution for his own services or under circumstances in which due personal supervision and control are not, or cannot be, exercised by the said registered practitioner.

The Executive Committee also stated, in reference to the procedure known as "covering," that in its view a registered practitioner covers an unregistered person when he does, or assists in doing, or is party to, any act which enables such unqualified person to practise as if he were duly qualified.

(6) On May 24th, 1888, the Council found and declared that the offence of "covering" had been proved against a practitioner brought before it; but on the defendant's admission that he had inadvertently committed that offence, his statement that he had discontinued the practice, and his promising not so to offend again the Council passed thereon this further resolution :—

That A—— B—— having expressed his contrition at having followed a course of conduct which the Council had declared to be most gravely wrong, and having stated that he had altogether ceased to pursue, and would pledge himself not to resume such conduct, and having then prayed for a merciful consideration of his case by the Council, the Council, in view of all the circumstances of the case, does not see fit to proceed further in the matter beyond requesting the President to admonish him most seriously.

The President communicated to A. B. the foregoing resolution and also admonished him seriously as to the exceeding gravity of his conduct.

(7) In November, 1888, four other cases were brought under the notice of the General Council, and the offence of "covering" having, after careful consideration, been proved in two of the cases, the names of the two practitioners thus found guilty of "infamous conduct in a professional respect" were, by the Council's orders, erased from the Medical Register.

(8) In May, 1891, the General Council directed the removal from the Medical Register of the name of a practitioner who had been summoned to appear and was found guilty of infamous conduct in a professional respect on the following charge :—

That he had continuously throughout the year acted as cover to a person who was not registered or qualified to practise as a registered medical practitioner, that is to say, that he had in concert with the said person, and by permitting him the use of his name, enabled him improperly to practise and sign medical certificates as if he had been a duly qualified registered medical practitioner.

(9) In November, 1891, two practitioners were also summoned, and after consideration their names were respectively erased from the Medical Register on the following charge :—

That he, being a registered medical practitioner, caused and enabled a medical practice to be improperly carried on in his name and for his benefit by means of the employment of an unqualified person, in which medical practice so carried on there was gross misconduct and culpable neglect of patients.

(10) In May, 1892, the General Council directed the removal from the Medical Register of the names of two practitioners who, having been summoned to appear, were found guilty of infamous conduct in a professional respect on the following charge :—

That they systematically permitted and enabled an unqualified person, under cover of their names and qualifications, to attend and prescribe for patients on his own responsibility in all respects as if he were duly qualified, to the detriment of persons who applied for medical aid at the places where such medical practice was carried on.

(11) In November, 1893, a registered practitioner was found guilty by the General Council of infamous conduct in a professional respect and his name erased from the Medical Register on the following charge :—

That, being a regular medical practitioner, he had continually during the years 1891 and 1892 acted as cover of and by his presence and assistance had enabled an unqualified person to carry on a medical practice as if he had been duly qualified.

Also that during the period aforesaid he habitually signed and gave certificates of vaccination, illness, and death in cases in which the said person had attended and he had not attended, and empowered the said person to sign his name to such certificates in cases attended by the unqualified practitioner and not by him, thereby enabling him to practise as aforesaid.

(12) On May 26th, 1893, the Council, after considering the report of the Medical Aid Associations Committee, passed a resolution to the effect that the rules already laid down by the Council as to "covering" unqualified assistants should apply to medical officers of medical aid associations in respect of any unqualified persons whom an association may have engaged to assist them (vol. xxx., p. 64).

(13) In May, 1894, three further cases were considered by the General Council of registered practitioners who had lent their presence, advice, and assistance to enable unqualified persons to attend patients and recover charges therefore as though legally qualified, and after they had been summoned before the Council and, the charges proved, their names were erased from the Medical Register.

(14) On Nov. 27th, 1896, a practitioner from Wales was summoned before the Council for the offence of covering, when the President informed him that the charge had been proved to the satisfaction of the Council and that the services of all unqualified assistants must be dispensed with, and further stated that the Council wished it to be known by all practitioners in the district that the employment of such assistants in the practice of medicine, surgery, and midwifery would meet with its strong condemnation.

(15) On Nov. 27th, 1896 two practitioners from the county of Durham were summoned before the Council on charges of covering, when it was made clear to the Council that in this colliery district the custom of employing unqualified assistants was not only general but that the district registrar of that part of the country habitually received from unqualified persons "notes or information" informing him

of the fact and cause of death and completed the registration in respect of the cause of death in the register without requiring a certificate of the cause of death signed by a registered medical practitioner; and, moreover, that this "information" was used in extracts granted to club officials in order that their members might obtain their club money.

(16) The General Medical Council having now had this question of the illegitimate employment of unqualified assistants before them for fourteen years, and that of "covering unqualified persons" for more than ten years; and having, by frequent advertisements in the medical papers during these last ten years, by censures in some cases and removals from the Register in other cases of a graver nature, proved to the members of the medical profession their entire disapproval of the employment of an unqualified assistant in the practice of medicine, surgery, or midwifery on behalf and for the benefit of such registered practitioner either in complete substitution for his own services, or under circumstances in which due personal supervision and control are not, or cannot be, exercised by the said registered practitioner (Feb. 27th, 1888); and having also made it widely known that they regard the practice of "covering" as "infamous conduct in a professional respect,"—the procedure known as covering having been defined by the Executive Committee as follows: "That, in its view, a registered practitioner *covers* an unregistered person when he does, or assists in doing, or is party to, any act which enables such unqualified person to practise as if he were duly qualified" (Feb. 27th, 1888),—

The Council now give notice that on and after Jan. 1st, 1900, the employment of any unqualified assistant in the practice of medicine, surgery, and midwifery will be treated as an offence under the Medical Act, and may be regarded as "infamous conduct in a professional respect," but with special proviso that such resolutions "should" not hinder any duly regulated training of pupils in medical schools or otherwise by legally qualified practitioners, or the use of trained pupils in partially treating the sick or injured under the direction, supervision, and responsibility of such practitioners, or any legitimate employment of nurses, midwives, or dispensers.

May, 1897. T. BRYANT.

APPENDIX.

Amendment of the Resolutions of the General Medical Council on the Employment of Unqualified Assistants as formulated by Dr. MACALISTER at the request of the President.

NOTICE.

EMPLOYMENT OF UNQUALIFIED PERSONS AS ASSISTANTS OR OTHERWISE.

Whereas it has from time to time been made to appear to the General Medical Council that some Registered Medical Practitioners have been in the habit of employing as assistants in connexion with their professional practice person who are not duly qualified or registered under the Medical Acts, and have knowingly allowed such unqualified persons to attend or treat patients in respect of matters requiring professional discretion or skill, and whereas in the opinion of the Council such a substitution of the services of an unqualified person for those of a registered medical practitioner is in its nature fraudulent and dangerous to the public health, the Council hereby gives notice that any registered medical practitioner, who is proved to have so employed an unqualified assistant is liable to be judged as guilty of "infamous conduct in a professional respect" and to have his name erased from the Medical Register under the 29th Section of the Medical Act, 1858.

Further, in regard to the practice commonly known as "covering," the Council gives notice that any registered medical practitioner who, by his presence, countenance, advice, assistance, or coöperation, knowingly enables an unqualified or unregistered person (whether described as an assistant or otherwise) to attend or treat any patient, to procure or issue any medical certificate or certificate of death, or otherwise to engage in medical practice as if the said person were duly qualified and registered, is liable to be judged as guilty of "infamous conduct in a professional respect" and to have his name erased from the Medical Register under the said enactments.

But the foregoing notices do not apply so as to restrict the proper training and instruction of *bonâ fide* medical students and pupils or the legitimate employment of dressers, dispensers, and surgery attendants under the immediate personal supervision of registered medical practitioners.

The Executive Committee having considered this subject as set forth in the foregoing statement on the growth of opinion in regard to it, and having considered also the proposed alteration of the Council's resolution drafted by Dr. MacAlister and entered in the appendix, directed that paragraph 16 of the foregoing report should be published annually in the medical journals in lieu of that now inserted.

Mr. BRYANT at the request of the CHAIRMAN read in full the portion of the report to which his signature was attached.

Dr. MACALISTER then read the appendix. He explained that having gone through Mr. Bryant's memorandum on the action of the Council he drew up the appendix and sent it to the President, who made some suggestions. Thereafter it was submitted to the lawyers of the Council, who accepted it with one or two verbal alterations. Then it went to the Executive Committee and this committee had apparently not reported upon it but had merely given it as an appendix to their report. He did not see how paragraph 16 of Mr. Bryant's memorandum could be regarded in the character of a notice and used as such because it could not be read without some context which was not supplied. Therefore he preferred the notice in the appendix.

The CHAIRMAN pointed out that the last paragraph in the report mentioned a date which the appendix did not. He thought there surely should be some notice or warning given.

Dr. MACALISTER said he was not at all sure about the warning because everything dealt with in this notice had been dealt with by this Council; there were precedents for every case that would come under this notice in the previous action of the Council. It was an unmistakable statement of their present stand in the matter that was wanted rather than any extension of legislation, and in that case he saw no need for notice. He moved: "That the notice to be inserted as an advertisement in the medical journals be that set forth in the appendix to the Executive Committee's report."

Dr. BRUCE seconded this motion.

Mr. TEALE said he was strongly in favour of the proposition in the report to name the first day of the year 1900 because he could not help regarding this as a new departure. In the previous definitions of the Council they had left a considerable margin between what was legitimate and what was illegitimate. He thought, too, that the matter of pupilage would have to be dealt with, and if necessary he would propose a rider to the motion.

Sir RICHARD THORNE said it seemed to him that in some respects Dr. MacAlister's motion was distinctly clearer than the proposal which stood above the signature of Mr. Bryant, because the latter implied that up till 1900 the Council would go back upon its present practice in regard to these matters.

Mr. BROWN said that having regard to the present practice of the Council he did not see any necessity for giving notice. The Council would be able to consider the merits of each case as it came up, and if mercy should be shown then no doubt it would be shown. He thought something should be inserted relating to the employment of midwives.

Dr. LOMBE ATTHILL supported the view that dates should be left out of the motion altogether.

Dr. HECTOR CAMERON, as the member who seconded the resolution by which this subject was referred to the committee, agreed entirely with Dr. MacAlister that the notice which the latter had drawn up was much more explicit and clearer than that which the Executive Committee proposed to advertise. But he further agreed with Mr. Teale that they ought to do two things. They ought to allow a little time before their intention became operative and they ought to make it clear what really was a pupil in contra-distinction to an assistant. What made it necessary for them to allow time was that the Council approved of the employment of unqualified assistants where such employment did not mean "covering." When that was so practitioners who had unqualified assistants should be allowed a year or two to make arrangements for carrying on their business. He should be disposed to support such a rider to the motion as Mr. Teale had drafted.

The CHAIRMAN thought it was as well that the Council should hear what the proposed rider was. It was this:—

That the decision and definition of the Council be issued to every medical practitioner on the Register and that the definition of a "pupil-assistant" as approved by the Council be: A medical student in whose case not more than six years has elapsed since his registration as a medical student.

The Council would need to pass Dr. MacAlister's motion before they dealt with this rider.

Dr. MCVAIL considered that the rider made more definite what Dr. MacAlister required in the last paragraph of his proposal. That was to say, he defined a medical student in such a way as to make it clear what a *bonâ-fide* medical student was. If Dr. MacAlister accepted the rider he (Dr. McVail) thought they might unanimously take the motion, after accepting which they could consider the question of the year in which it should become operative.

Dr. MACALISTER wished the motion to be taken on its own merits.

Mr. BRYANT liked Dr. MacAlister's motion better than the paragraph 16 which the Executive Committee suggested should be advertised, and he looked upon the proposed rider

as also remarkably good in so far as it admitted no man to act as an unqualified assistant after his name had appeared for more than six years in the Students' Register.

Sir RICHARD THORNE asked Dr. MacAlister to explain why "midwives" did not appear in his motion seeing that the term occurred in the original resolutions of 1883.

Dr. GLOVER wished to know whether Dr. MacAlister was prepared to differentiate between pupil and unqualified assistant.

Dr. MACALISTER, in reply, adverted to an objection taken to the term "unqualified or unregistered person." He pointed out that there were some persons—lawyers—who held that "qualified" and "registered" were not synonymous, and therefore it was necessary to use the two words. With regard to "midwives" he thought that word was in his original draft of the motion and must have dropped out in the course of revision by their President and legal adviser. He saw no reason why "midwives" should not be in and he should now ask that the word be inserted. With regard to pupils the motion had it that the notices were not to apply so as to restrict the proper training and instruction of *bonâ-fide* medical students and pupils. Clearly a distinction of a practical kind between pupil and unqualified assistant was whether the man paid for his instruction or was paid for his work. That seemed to him to be a practical test, but he could not put it in his motion, which he should like to see accepted. If the Council did pass it they could consider the question of the time at which it should become operative.

The motion was amended by the insertion of the word "midwives," and on then being put was carried unanimously.

The CHAIRMAN said they had now to deal with Mr. Teale's proposed rider, but it seemed to him that it consisted of two distinct parts, and that the second, which contained the definition referred to in the earlier, should be first dealt with.

Dr. MACALISTER wished to point out that it was proposed to define a word which did not occur in the resolution just passed. What was a pupil-assistant?

Dr. BATTY TUKE suggested that to make such an alteration as the definition proposed would land them in a somewhat dangerous position. The average number of years between registration as a student and as a practitioner was six and a half, and if six years were, as proposed, adopted now they would be interfering with the average student.

Dr. GAIRDNER'S opinion was that six years was a matter that required very much attention.

Dr. LEECH said that the adoption of such a period would cut off very many of their best men who in the middle of the course went two or three years to science and then returned to complete the medical course. It would be a great mistake to accept the proposal.

Sir RICHARD THORNE suggested that seven years should be substituted for the six proposed.

Mr. TEALE and Dr. HECTOR CAMERON were quite willing to accept this suggestion.

Sir PHILIP SMYLY looked upon the rider as proposing something contrary to the Council's regulation permitting six months of the fifth year of study to be spent with a registered practitioner. Surely nothing should be done that would interfere with that regulation. He objected altogether to the use of the term "pupil-assistant," which had never been used before.

On the motion of Dr. BATTY TUKE the debate was adjourned.

The Council adjourned.

WEDNESDAY, NOV. 24TH.

The Council resumed to-day, Sir WILLIAM TURNER acting as chairman.

The President's Health.

Mr. H. E. ALLEN, the Registrar, read a letter, dated Nov. 24th, from Sir Richard Quain, asking him to be so good as to express to the Council the President's feeling of heartfelt gratitude for the previous day's resolution of sympathy with him which had been a source of much comfort. The President was happy to say that he was much better since his return from the country a few weeks ago.

On the motion of Mr. BRYANT, seconded by Dr. BRUCE, the communication was entered on the minutes.

Resignation of Dr. Wm. Moore.

The CHAIRMAN said that he had received a communication from the President on another subject. The Council would have noticed the absence of Dr. William Moore, one of the Irish representatives. Dr. Moore was in very bad health. He had intimated to the President some time ago that he feared he would have to retire from the Council, but at that time he had not actually intimated that he did retire. Dr. Moore had since been telegraphed to on the subject, and a telegram had been received in reply which the President took to intimate his resignation. The appointment of a successor lay with the Privy Council, to whom the resignation had been made known.

Employment of Unqualified Assistants.

Mr. BRYANT stated that he wished to correct the last paragraph of the Executive Committee's report in regard to the employment of unqualified assistants by the insertion of the word "formally" so as to make the first line read: "The Council now formally give notice," &c.

Dr. MACALISTER wished to correct a mistake in the last paragraph of the "notice" which had been adopted by the Council. The word "and" between the words "*bonâ-fide* medical students" and "pupils" should be not "and" but "as."

Debate was resumed on that portion of Mr. TEALE'S rider to Dr. MACALISTER'S resolution which was under discussion at the adjournment on Tuesday, viz.:—

> That the definition of pupil-assistant, as approved by the Council, be—"a medical student in whose case not more than seven years have elapsed since his registration as a medical student."

Dr. BATTY TUKE said he objected to this definition because it would exclude a certain number of medical students from a line of study which was approved of by the Council. The average period of medical students' study was six and a half years, and a table which he held in his hand showed that a considerable number of men took more than seven years to complete their course. He thought it was extremely dangerous to attempt to define in the present instance. It was absolutely impossible for them to foresee what possible dodges and subterfuges would be introduced to get behind such a definition as that proposed. It seemed to him that the position was sufficiently well-guarded in the "notice" which it was proposed to send out to the medical practitioners of the country. That declared that, "Whereas it has from time to time been made to appear to the General Medical Council that some registered medical practitioners have been in the habit of employing as assistants in connexion with their professional practice persons who are not duly qualified or registered under the Medical Acts, and have knowingly allowed such unqualified persons to attend or treat patients in respect of matters requiring professional discretion or skill." He thought that sufficiently defined the position. The correction made by Dr. MacAlister a few minutes since was intelligible and satisfactory, but the question would arise as to what a *bonâ-fide* student was. For his part he thought a definition would be arrived at by the decision given in a case or cases that would come before the Council. Meantime he objected to the term "pupil-assistant." It was entirely new and was one which in itself was dangerous. For such reasons he could not vote for Mr. Teale's proposal.

Mr. BROWN: Do you propose an amendment?

Dr. BATTY TUKE: No.

Sir CHRISTOPHER NIXON quite agreed with Dr. Tuke in objecting to the introduction in the proposal of a new term. He thought that as it stood at present the term "pupil-assistant" was simply a synonym for "unqualified assistant" and because of that it seemed to him to be very objectionable. He took the strongest view that this Council should do all in its power to stop the notoriously infamous practice of employing unqualified assistants, and what he was afraid of was that if the rider was adopted it would simply provide facilities to enable practitioners to proceed in the very line of conduct which the Council condemned because they would provide the general practitioner with assistants which they recognised in the most formal way. If they established a rule allowing the employment of pupil-assistants for two years he did not think they would be able to obtain the conviction of any man for the use of students as assistants unless they had it clearly defined that the students did not work for salary.

Dr. MCVAIL was prepared to support the rider almost for the very reasons that were to induce Sir C. Nixon to vote against it.

Dr. ATTHILL, who intended to support the rider, asked if it would be possible to alter the term "pupil-assistant" which did not appear in the resolution adopted on Tuesday. He suggested that they should take "registered medical student" instead.

Dr. MACALISTER thought that in future a man would have to produce a great deal of proof before they believed that an unqualified assistant was only a student. The last clause of the resolution the Council had adopted was not one for allowing students up to seven years of studentship to go as assistants. The clause was a negative one. It said unqualified assistants would not be allowed, but it did not put any restriction on the instruction of students; it did not encourage the use of students for the purpose of gain. If a practitioner alleged that his assistant was a student he would have to prove it. The onus of proof should be on him and the Council should not in any way assist him to prove his allegation. A great many unqualified assistants were not students, but if the rider proposed were adopted what was to prevent any of these men entering themselves as students to-morrow and thus getting seven years in which they might assist a practitioner, who at the end of that period would find another man to register and act with him for another seven years? The rider would manufacture a supply of the men they wanted to get rid of. They should avoid the mistake Parliament found it had made in providing that the *bonâ fide* traveller was a man who had walked four miles. They should leave definition alone at present and let the *bona fides* be proved when a case came before them.

Mr. BRUDENELL CARTER agreed that the best way of dealing with this question was to leave it in such a state of indefiniteness that the discretion of the Council should be exercised on every case that arose.

Dr. GLOVER, while feeling that it was very difficult to arrive at a satisfactory definition of the kind of pupil that they approved and the kind that they disapproved, could not agree with Mr. Carter in prolonging indefiniteness. There should be some definition. If there was to be any improvement in the Council's penal procedure—if there was to be any effective stop put to a great evil—there must be precision of language in their pronouncements. That they should furnish such precision would not only be just to the practitioner but kind to the student. He did not think the period of seven years the rider provided was long enough, but if they made it ten years that would remove a great deal of the objection to the proposal.

Sir RICHARD THORNE said that he suggested on Tuesday that the period should be lengthened from six years to seven, but he was bound to say that as a result of the discussion of to-day he would rather not vote on the proposal at all.

Dr. GAIRDNER would rather not have the rider at all. He agreed that they should leave each case to be decided on its own merits. The time limit in his view was a hopeless one.

Sir WILLIAM THOMSON was prepared to contend that as soon as a fifth-year student completed his six months' instruction under a registered practitioner he became an unqualified assistant, and there would be a certain amount of protection to the public and the profession if this were set out properly by the Council. The "notice" did not sufficiently do what was necessary.

Mr. HORSLEY felt that he ought not to give a silent vote against the rider. He felt very strongly as had been said by other members of the Council that they were discussing something which did not exist, viz., the pupil-assistant. If that were so he suggested that the discussion was hardly in order. At any rate he would deprecate the further discussion of such a thing as a pupil-assistant. But he thought that the general practitioner should have some help in understanding the paragraphs of the "notice." Accordingly he would suggest that when they came to discuss the second part of the rider Mr. Teale should accept a modification to the effect that the decision of the Council and an explanatory statement relating thereto should be furnished to every practitioner on the Register. That, he thought, would be only just to all concerned.

Mr. TEALE said he felt that the Council were now taking a new departure. If they read the original resolutions of 1883 he thought that they would agree with him that that was so. They were now going to say that practitioners should not use unqualified assistants at all and were trying to draw the line between unqualified assistants and pupils. When they were taking this new departure he was anxious that the Council should let the profession know what they wanted. It had struck some of them that they might draw the line between the students and the unqualified practitioner in some such way as he had suggested, but he must say that although he was proposing this motion he was now convinced that they would land themselves in difficulties if the Council passed it. Therefore if the Council allowed it he would withdraw the proposal.

No objection being raised, the proposal was then withdrawn.

Mr. TEALE thereupon moved:

That the "notice" adopted by the Council in reference to the employment of unqualified assistants be issued to every medical practitioner on the Register, and that a copy thereof be given to every person who is about to have his name entered upon the Medical Register.

He said that the Council's notice at present was by advertisement. He himself had neither seen it in the medical journals nor had he read it, and he believed many members of the profession had like himself never seen it. Consequently, when men were before the Council and pleaded ignorance he had felt that they had rather a strong point against the Council for not taking the proper means to make the profession acquainted with their wishes and requirements.

Sir DYCE DUCKWORTH had some sympathy with this view. Their advertisement ought to get a better place in the medical journals than was given to it.

The proposal was adopted.

Mr. TEALE next moved:

That when the announcement of the decision of the Council as to the entire disuse of unqualified assistants, with the exception as to the instruction of *bonâ-fide* medical pupils, an intimation be issued that the Council will act on this decision in any case which occurs after Jan. 1st, 1900.

Dr. CAMERON seconded.

Dr. GAIRDNER could not see any reason for making any limit at all. They had declared that a certain thing was fraudulent and dangerous to the public. Were they to say that they were going to give a close time up to 1900?

Mr. TEALE felt strongly that as they were taking a new departure they ought to take the course suggested in his motion.

Dr. MACALISTER absolutely objected to any time limit. They did not require to give notice. They could deal with bad cases now and they could begin to deal with fresh cases that might arise under the new "notice" when they liked.

Dr. CAMERON pointed out that in proposing 1900 the movers were only following the course suggested by the Executive Committee.

Dr. MACALISTER: But that was not adopted.

After a few remarks by Dr. BRUCE, the Council divided, when 3 voted for the motion and 23 against it. The motion accordingly was rejected.

Members' Speeches.

On the motion of Dr. MACALISTER the Council received and entered on the minutes a report from the Executive Committee, which stated that the committee had considered the resolution of May 31st, and were not prepared at this time to recommend the Council to adopt a standing order to limit the length of speeches. The resolution in question was as follows:—

That it be referred to the executive committee to consider and report whether it would be desirable for the Council to adopt a standing order to the effect that no member of the Council, other than the President or the chairman of a committee introducing a report, shall speak to any motion for more than ten minutes without the permission of the Council being asked from the chair, and granted by resolution moved, seconded, and put without debate.

AN INFORMAL PETITION.

On the motion of Dr. MACALISTER the following report was received and entered on the minutes:—

The Business Committee beg leave to report as follows:

They have had laid before them copies of a petition headed "Registered Practitioners of Great Britain and Ireland to the General Medical Council," signed by fifty-three persons in all. Under Standing Order VII., 16, "No petition shall be received by the Council which is reported ..... to refer to more than a single main question." The

petition under consideration refers to ten or more main questions relating to the powers of the Council, to the ethics of the medical profession, and to proposals for medical legislation in various directions. The Committee accordingly report that the petition is not in accordance with the standing orders and is thus excluded from being received by the Council.

Mr. BROWN, suggesting that the petition must have been drawn up in ignorance of the standing orders, asked the Council to waive their standing orders in this instance and receive a deputation from the petitioners, who would address themselves to one single main question.

Sir WILLIAM THOMSON seconded a formal motion to that effect which Mr. Brown handed to the chairman.

Dr. MACALISTER objected that this motion consisted of two parts. A motion for the suspension of standing orders ought to be a separate proposal.

Mr. BROWN moved that the standing order that prevented the petition being received be suspended.

The original proposal was not withdrawn and this new one was not seconded.

Sir RICHARD THORNE thought the procedure in the case was most inconvenient. They were, he said, proceeding to suspend a standing order on a matter of which they knew nothing.

Mr. BRUDENELL CARTER pointed out that there was nothing before the Council about receiving a deputation.

The REGISTRAR, in answer to Mr. Brown, said that a letter asking that a deputation should be received had reached him, but the time had not arrived for considering it. It must be dealt with by the business committee.

Dr. MACALISTER hoped the Council would not suspend the standing order. If any number of practitioners had a grievance on which they wished to address the Council on a single point the Council were willing to receive them. But in this case it seemed to him that the first thing the petitioners should have done was to inform themselves as to what were the Council's standing orders in the matter.

As only two members voted in support of it Mr. Brown's proposal was rejected.

An Application for Restoration to the Register.

The following report was brought up:—

The Executive Committee have considered the application of John Melvin Campbell, Lic. Soc. Apoth. Lond. 1875, whose name was removed from the Medical Register on May 23rd, 1894, and have ascertained that the applicant has complied with the standing orders. The Committee, having considered the case and accompanying certificates, recommend the General Council to restore the name and qualification of John Melvin Campbell to the Medical Register.

Mr. BRYANT moved the adoption of the Committee's recommendation, and Mr. BRUDENELL CARTER, in seconding, said that he felt at the time the name of Mr. Campbell was removed from the Medical Register that the case was of such a kind that his name might be restored in two or three years. He had communicated his impression to the Apothecaries' Society so that they might leave him in such a position that he might apply for restoration. Mr. Campbell still possessed the qualification.

Mr. HORSLEY drew attention to the difference of procedure adopted by licensing bodies in cases such as that before them.

Mr. BRUDENELL CARTER stated that the Licentiates of the Apothecaries' Society stood in a different position from those of many other licensing bodies. The Apothecaries' Society, although having the power to remove a qualification, had no power to restore it. Other bodies could restore a qualification that had been removed.

Dr. MACALISTER remarked that the only thing the Society could do was to strike a man's name off the list of Licentiates. That had been done in this case, as in reply to a letter from the Council's registrar, Mr. Upton, of the Apothecaries' Society, had replied that the name of Mr. Campbell was struck off the list of the Society's Licentiates on June 21st, 1894.

Dr. BATTY TUKE said there was something mysterious about this case. They did not know all the facts. The executive committee were not aware that the man's name had been struck off the list. Was the executive committee going to recommend that a man without a qualification at all was to be put on the Medical Register?

The CHAIRMAN pointed out that Mr. Upton's letter also stated that although Mr. Campbell's name had been removed from the list of Licentiates he still held the Society's qualification, the Society having no power to cancel a qualification.

Mr. BROWN suggested that the Society should move first in this instance, and restore Mr. Campbell's name to their list of Licentiates.

Mr. BRUDENELL CARTER: They cannot do it.

The CHAIRMAN: By the Act power is given to strike off from the list of Licentiates, but no power is given to restore.

Mr. HORSLEY: What justification is there for Mr. Upton's statement that a man may still retain his qualification although his name is removed from the list of Licentiates?

Dr. MACALISTER thought they should not proceed further with this case until their legal adviser was present.

This seemed to be the feeling of the Council and the usual adjournment for tea then took place.

When business was resumed Mr. CARTER made a further short statement with regard to the legal position of the Apothecaries' Society in relation to its Licentiates.

The Case of Robert Masters Theobald.

The Executive Committee reported that having considered the application made by Robert Masters Theobald to be restored to the Medical Register from which his name was removed on Dec. 3rd, 1894, they recommended the Council that, as he had no registrable qualification, it was not in the power of the Council to restore his name to the Medical Register.

Mr. BRYANT, seconded by Dr. MACALISTER, moved the adoption of the recommendation. The former stated that in this case the diploma had been given up so that no question arose.

The recommendation was agreed to.

The Midwives Question.

The REGISTRAR read the following report on this subject—viz.:—

The Executive Committee inform the Council that they have received the following report from the Midwives Registration Bill Committee:

"The Midwives Registration Bill Committee beg leave to report to the Executive Committee that, having regard to the letter from the Privy Council Office of Nov. 20th, 1897, they are of opinion that there is no necessity for them to submit any observations to the Council on the Bill of last session.

"They are further of opinion that it is desirable that the Council should appoint a committee to report on any Bill for the registration of midwives that may be introduced during next session of Parliament and that may be referred to the Council by the Government.

"Nov. 22nd, 1897." "RICHARD T. THORNE, Chairman.

On the motion of Mr. BROWN there was added to the report the letter of Sir Charles Lennox Peel, which was to this effect: "I have submitted to the Lord President of the Council your letter of the 13th inst. on the subject of the Midwives Registration Bill of last session, and in reply I am directed by his Grace to state for the information of the General Medical Council that there would appear to be no necessity for the Council to consider the provisions of the Bill until it is re-introduced."

Sir RICHARD THORNE moved that the Council adopt the report and appoint the present Committee to report upon any Midwives Registration Bill which might be submitted to the Council by the Lord President before or during the present session of Parliament.

Dr. GLOVER seconded this motion.

Mr. HOBSLEY said that he thought the functions of the Council in this connexion were to do something more than merely alter Bills sent down by the Privy Council, and he thought the letter of Sir Charles Lennox Peel showed that the Privy Council expected something more. He would suggest that the Committee be appointed to watch the progress of the Midwives question.

Sir RICHARD THORNE said he did not think it would be possible for such a Committee as this, composed of members from all parts of the kingdom, to watch the progress of the question.

Mr. HORSLEY pointed out that watching committees were frequently appointed by other bodies when legislation was in active progress or was threatened. Upon this subject they were threatened with legislation, and it might be necessary for this Council not merely to report upon any given Bill but to tell the Privy Council how far any legislation on

the subject interfered with the existing Medical Acts. He moved in accordance with his suggestion.

Dr. BRUCE seconded the motion.

Mr. BROWN expressed the opinion that the motion of Sir Richard Thorne would meet the whole case.

Mr. CARTER said it would be a wholly new departure for this Council to take anything that could be looked upon as an initiative step with regard to midwifery. They had never regarded the question as falling within the proper limits of their activity except in so far as they had responded to an appeal made to them by the Government for their opinion as a medical body upon particular propositions. It was not for the Committee to discuss general questions, because these would afterwards have to be discussed by the whole Council if they were discussed at all.

After some further discussion Mr. Horsley withdrew his motion, and the motion of Sir RICHARD THORNE was agreed to.

On the motion of Mr. BROWN, seconded by Dr. GLOVER, the name of Mr. Horsley was added to the list of the Committee to take the place of Dr. Rentoul.

Dr. MCVAIL then moved:—

That the General Medical Council is of opinion that the practice of midwifery cannot be safely entrusted to persons who have a less knowledge of midwifery and of medicine and surgery than is required for admission to the Medical Register.

This, he said, was in his opinion a fitting opportunity for the Council to give a clear expression of opinion upon this question which had been exciting so much attention. To do so would be of very considerable assistance to the Government and to any Members of Parliament who might be induced to introduce a new Bill, and it would lighten the labours and clear the way of the Committee of the Council on the subject.

Dr. GLOVER, rising to a point of order, asked whether such a motion as this, inconsistent as it was with the resolutions of the Council, was in order.

The CHAIRMAN replied that he was not prepared to rule the motion out of order.

Dr. MCVAIL continuing said that the main point he wished to emphasise was that the intention of those who were promoting this legislation was to create a new class of practitioners, a class of persons who would independently conduct midwifery cases. Both Bills applied to women only, but it was perfectly certain that the matter would not rest there. There were throughout the country a great many men who had gone through a part of the medical curriculum and who had been attending cases of midwifery for a long time. This Council had been endeavouring to put down this class and were they now to open a door for them? Were they to say to men of that kind that while they were not fit to enter the profession they could go and join this inferior class of practitioners even though they happened to be men. If they said they were not to do that then they were going to exclude from this grade the very people who were of all others the most competent to meet the requirements of the situation—men who had got a certain amount of surgical and medical training and who had had great experience in midwifery cases. Not only so, but practitioners so admitted, whether men or women, would unquestionably seek to extend the bounds of their work and would begin to treat the diseases of women and of children. They would gradually come to be practitioners upon whom the mothers in the poorer classes of society would depend for advice in connexion with themselves or their offspring. Severe tests were now imposed upon dentists, but would anybody contend that the responsibility of a dentist was to be compared with that of a person who attended a case of midwifery. In all these proposals women were to be entitled to attend cases without the supervision of a medical man. When one of the Bills was being discussed by this Council he proposed that there should be an amendment to provide for the supervision of a medical practitioner, but the proposal was rejected. The statement was made that every year in England and Wales 500,000 women were attended by midwives, but was that to cause this Council to completely disunite the three great medical sciences which were united for them finally in the Act of 1886? Could this great country not meet the wants of these 500,000 women by securing for them through the means of the various boards of guardians and parochial boards the attendance of registered medical practitioners? The profession, they were told—and no journal told them more persistently than THE LANCET—was becoming overcrowded. If that were so, then surely the profession could undertake this extra work, and he thought there could be no higher duty for the Government than to give assistance to women in these circumstances. He did not object to a system of registration for midwifery nurses, but he objected to the creation of a body of practitioners who would without medical supervision undertake the management of midwifery cases and rely upon their judgment alone for their treatment. It might be said that what he proposed would be unfair to women but he would remind the Council that women were now admitted to the medical profession practically on the same terms as men. If women desired to follow midwifery as a profession they could enter the profession in the ordinary way.

The CHAIRMAN said he would suggest that the Council should not go into the question of midwives against midwifery nurses or women medical practitioners. He thought they should confine themselves to the discussion of the general question which was raised by Dr. McVail's motion.

Dr. ATTHILL in seconding the motion said that no one who had had such extensive practice as he had had in midwifery cases could fail to be impressed with the ills which were inflicted upon women and children by want of knowledge of the principles and practice of midwifery, and every effort should be made by this Council to enforce a proper standard of education in midwifery upon every person who went upon the Register. It was impossible to teach midwifery in three or six months as some of these institutions professed to do, and the sooner the Council looked into the matter the better. He urged for the sake of humanity that the Council would not vote against this abstract resolution.

Mr. CARTER said he doubted very much whether the Council would act wisely by adopting this resolution. One would think that Dr. McVail had been speaking of something new. Instead of that he had been speaking of a practice as old as human nature itself. What they had to deal with in this Council were the facts of life as they found them, and if the Council could not remove the evils incidental to the employment of women in midwifery cases they should do their best to minimise them, and he thought that they should probably find that minimising these evils by giving instruction to women would be a step towards doing away with them entirely, and towards producing in the public mind a demand for a better educated class of practitioners still.

Dr. GLOVER said he could not help thinking that this resolution was inconsistent with the previous action of the Council. He assured Dr. McVail that the Bills only contemplated women practising midwifery under the most limited circumstances and with the supervision of the medical profession. He was as anxious as Dr. McVail that there should be supervision, and he would tell the Council that at a most agreeable though small meeting of the Committee on the Midwives Bill, consisting of Mr. Brown, Dr. Rentoul, and himself, after much difference of opinion they agreed upon a clause providing that in every case attended by a midwifery nurse in which the labour was unusually prolonged or difficult or in the after period of which there was anything unsatisfactory in the health of the mother or child the midwifery nurse should send without delay for one of such registered men as should be appointed for such purpose by the local sanitary authority. Dr. McVail said that the curriculum of these women would be short and the examination worth nothing at all. But a very small amount of training was a very great additional security for the patient, and this was amply proved by the statistics of maternity institutions. As to men being included in the scope of this legislation, he did not believe that any Parliament would sanction anything of the kind, and, moreover, the present Medical Acts forbade it. Midwives they had with them now as they had always had them, and the object of this legislation was to bring them under control and limit their numbers. As to the 500,000 women attended by midwives Dr. McVail proposed to make them all paupers, a thing which would never be tolerated. He hoped the Council would not adopt this resolution, which he insisted would destroy the influence of the Council, and the profession in controlling this legislation. If this resolution were passed it would take the matter entirely out of the hands of the Council and of the profession. According to any practical proposals this Council was to sanction the rules that

were to be provided and these rules were to be administered by a body consisting almost wholly of medical men. This resolution would stultify the Council and contradict its previous resolutions, and would be a hint to the Government that in this matter they should not seek the advice of the Council.

Dr. MACALISTER, seconded by Mr. BRYANT, moved as an amendment:—

That it is inexpedient for the Council to commit itself to an abstract resolution which may preclude it from giving full consideration to any future Midwives Registration Bill submitted to it by the Government.

Dr. ATTHILL said that in all the circumstances he thought this amendment was very judicious.

A reply from Dr. MCVAIL having been heard, the vote was taken, when Dr. MacAlister's amendment was carried by 16 votes to 6.

The amendment was then put as a substantive motion.

Mr. BROWN said he wished to take the opportunity of explaining his position with regard to the clause referred to by Dr. Glover. He only agreed to the clause by way of minimising the manifest evils of the Bill, and he reserved to himself the right to prepare a minority report to the effect that no legislation of this kind was necessary.

The amendment was carried as a substantive motion and became the finding of the Council.

Fines under the Medical Acts.

The following report on this subject by the special committee was read, viz.:—

Dr. Glover, as the chairman of this Committee, informs the General Council that in the course of the last session he had a second interview with Mr. Jessie Collings on the subject of penalties under the "Medical Acts and the Metropolitan Police Courts Bill," and at his request on this subject, in the course of which he expressed to Mr. Collings the anxious wish of the Council that fines imposed under the Medical Acts should be paid over in accordance with the spirit and letter of the Medical Acts to the treasurers of the Medical Council, and in defrayment of the expenses of prosecutions, Mr. Collings expressed much sympathy with the object of the Medical Council, and willingness to consider it on any suitable occasion; but said that the present measure was so technical and limited in its nature that the subject could not be dealt with in it.

The report was entered on the minutes, and it was agreed to re-appoint the committee with the addition of Mr. Horsley.

The Council then adjourned.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON. — In November the following candidates passed in the undermentioned subjects:—

Surgery.—J. Cater, King's College Hospital; and F. H. Fawcett Middlesex Hospital.
Medicine.—L. Elkind, Berlin; and W. A. B. Smith, King's College Hospital.
Forensic Medicine.—J. Ash, St. Thomas's Hospital; and T. H. Bailey and S. R. Bhagtani, King's College Hospital.
Midwifery.—F. G. Aldrich, Charing-cross Hospital; T. H. Bailey, King's College Hospital; F. W. Chesnaye, St. George's Hospital; F. R. Greenwood, St. Bartholomew's Hospital; B. S. Mankar, London Hospital; H. H. Monckton, King's College Hospital; and A. W. Shea, Sheffield and Dublin.

The diploma of the Society was granted to the following candidates, entitling them to practise Medicine, Surgery, and Midwifery: Messrs. J. Cater, S. R. Bhagtani, F. R. Greenwood, B. S. Mankar, H. H. Monckton, and A. W. Shea.

ROYAL COLLEGE OF SURGEONS IN IRELAND: FELLOWSHIP EXAMINATION. — The following gentleman having passed the necessary examination has been admitted a Fellow of the College:—

D. P. O'Brien, L.R.C.S. Irel., &c.

The following gentlemen have passed the Primary part of the examination for the Fellowship:—

R. Allen, B.Ch., &c., R.U.I.; W. J. Corbett, L.R.C.S. Irel., &c.; J. M. Redington, L.R.C.S. Irel., &c.; Alfred H. Jacob, C. B. Pasley, and E. F. Stapleton.

ASSAULT ON A WORKHOUSE MEDICAL OFFICER.—On Nov. 15th a male pauper was sentenced to a month's hard labour by the magistrate at the Lawford's Gate, Bristol, Police Court for an assault upon Mr. R. Norgate, L.R.C.P. Lond., M.R.C.S. Eng., the resident medical officer of the Stapleton Workhouse. Evidence showed that the prisoner had struck Mr. Norgate in the face and had torn his clothes.

GREAT NORTHERN CENTRAL HOSPITAL.—Arrangements are being made for endowing a bed in the Great Northern Central Hospital in memory of the Duchess of Teck. A donation of £100 towards this object has been offered by Mr. C. F. Cory-Wright. A further sum of £850 is required, contributions to which will be received either by the President (the Baroness Burdett-Coutts) or by the honorary secretary of the Ladies' Association at the hospital.

BANQUET TO PROFESSOR ALFRED HUGHES AT CARDIFF.—On Nov. 20th last Professor Alfred Hughes, of King's College, London, was entertained at the Angel Hotel, Cardiff, at a complimentary banquet given conjointly by the Council and Senate of the University College, Cardiff, and the members of the Cardiff Medical Society. The chair was taken by Mr. Treharne in the absence of Principal Viriamu Jones. In proposing the toast of the evening the chairman referred to the general regret felt at the departure of Professor Hughes from the chair of anatomy in Cardiff and recalled the good and honest work he had done in the early years of the new medical schcol and also his universal popularity among the students as their teacher and friend, wishing him prosperity in his new sphere in London. Professor Hughes, in his reply, congratulated the council of the College on the appointment of Professor Dixon as his successor and warmly eulogised his distinctions as a teacher and investigator. In dealing with the future prospects of the medical school Professor Hughes maintained that the success which the school had achieved and the rapid developments of the clinical resources of the district justified them in looking forward at no great distant date to the further development of the school by providing lectures on the final subjects of the curriculum; if that were done he suggested that the authorities of the University of Wales might well take steps as to acquiring powers of granting degrees in medicine.

APOTHECARIES' HALL OF IRELAND.—At a meeting of the Governor and Court of the Apothecaries' Hall of Ireland the following gentlemen were appointed examiners to conduct the examinations in Medicine, Surgery, and Midwifery:—Chemistry and Physics: E. Davy, M.B., Dub., Government Analyst; N. Hartley, F.R.S., F.I.C., Professor of Chemistry, College of Science, Ireland; C. R. Tichborne, F.I.C., Diplomate Public Health R.C.S. Irel., L.A.H., Ex-examiner Chemistry (Dub. Univ.). Pharmacy: W. V. Furlong, L.R.C.P. Edin., L.R.C.S. Irel., L.A.H.; G. A. Stritch, L.F.P.S. Glasg., L.A.H. Anatomy: A. Birmingham, M.D. R.U.I., F.R.C.S. Irel., Professor of Anatomy, Catholic University, Fellow and Examiner, R.U.I.; (vacant). Biology: A. J. Blaney, M.B., B.Ch., Examiner Biology, R.U.I.; J. A. Johns, M.B., B.Ch. Dub., L.A.H. Materia Medica: John Evans, L.R.C.S. Irel., L.A.H., Ex-examiner, P.S.I.; S. M. Thompson, L.R.C.P. Irel., L.R.C.S. Irel., L.A.H., Visiting Physician to South Dublin Union. Physiology: D. J. Coffey, M.B., B.Ch. R.U.I., Lecturer on Physiology, Cecilia-street Medical School; G. B. White, M.B. Dub., F.R.C.S. Irel., L.A.H., Examiner R.C.S. Irel. Hygiene: D. E. Flinn, F.R.C.S. Irel., Diplomate Public Health, R.C.S. Irel.; A. Roche, M.R.C.P. Irel., L.R.C.S. Irel., Examiner Hygiene, R.U.I. Medical Jurisprudence: H. A. Auchinleck, F.R.C.S. Irel., L.R.C.P. Edin., L.A.H., Professor of Medical Jurisprudence, R.C.S. Irel.; J. E. Kenny, L.R.C.P., L.R.C.S. Edin., Coroner City of Dublin. Pathology: E. J. McWeeney, M.D., M Ch. R.U.I., Examiner in Pathology, Pathologist to Mater Misericordiæ and Coombe Hospitals; C. M. O'Brien, M.B. Durh., L.R.C.P., L.R.C.S. Irel., L.A.H., Ex-Senior Resident Surgeon and Registrar Jervis-street Hospital, Dublin, late acting Clinical to Out-Patients Middlesex Hospital, London. Midwifery and Gynæcology: T. More Madden, M.D. (Hon. Causâ) R.U.I., F.R.C.S. Edin., Obstetric Physician, Mater Misericordiæ Hospital, Ex-Assistant Physician, Rotunda Hospital; R. D. Purefoy, M.B. Dub., F.R.C.S. Irel., L.A.H., Master, Rotunda Hospital. Ophthalmology: A. H. Benson, M.B. Dub., F.R.C.S. Irel., Ophthalmic and Aural Surgeon to the City of Dublin and St. Mark's Hospital; R. J. Montgomery, M.B. Dub., F.R.C.S. Irel., L.A.H., Assistant Surgeon to St. Mark's Hospital, Ophthalmic Surgeon to Drumcondra Hospital. Surgery (appointed by the General Medical Council): A. Chance, F.R.C.S. Irel., L.A.H., Surgeon to Mater Misericordiæ Hospital; H. A. Thompson, M.D., B.Sc. Edin., F.R.C.S. Edin. Medicine: W. E. Ashley Cummins, M.D., M.Ch. R.U.I., L.A.H., Professor of Practice of Medicine, Queen's College,

Cork, Senior Physician Cork County and City Hospital for Women and Children, &c.; and J. B. Coleman, M.D. R.U.I., Physician to Richmond, Whitworth, and Hardwicke Hospital.

SIR JOHN LUBBOCK has consented to deliver the first sessional lecture of the Royal British Nurses' Association on Wednesday, Dec. 1st. The lecture will be given in the rooms of the Zoological Society, 3, Hanover-square, W., at 8 P.M., on the subject "Ants." A limited number of seats will be available for the public.

FREEMASONRY.—*The Sancta Maria Lodge.*—The following are the officers of the new Lodge the inauguration of which we announced last week:—His Royal Highness the Prince of Wales, Worshipful Master; W. Bro. Edmund Owen, M.B. Lond., F.R.C.S. Eng., Deputy Master; W. Bro. Alexander Stewart Brown, F.R.C.S. Edin., Acting I.P.M.; Bro. the Hon. Reginald Bootle Wilbraham, Senior Warden; W. Bro. J. Ernest Lane, F.R.C.S. Eng., Junior Warden; W. Bro. the Rev. H. S. Cronin, M.A., Chaplain; W. Bro. Malcolm Morris, F.R.C.S. Edin., Treasurer; W. Bro. M. Handfield-Jones, M.D. Lond., Secretary; W. Bro. A. P. Luff, M.D. Lond., Senior Deacon; W. Bro. Henry Pearce, M.R.C.S. Eng., Junior Deacon; Bro. P. P. Whitcombe, M.B. Lond., Inner Guard; W. Bro. E. A. Priddle, B.A., Director of Ceremonies; Bro. M. Mitchell Bird, M.D. Durb., Steward; W. Bro. C. D. Leyden, Steward; and Bro. W. J. Gow, M.D. Lond., Steward. A large number of names have been proposed as initiates, amongst which may be mentioned that of the Dean of the Medical School of St. Mary's, Mr. G. P. Field. The deputy master will have a busy time during the coming twelve months as the names of many students as well as of several of their teachers have been given in as intending adherents.

RUSSIAN IMPRESSIONS OF THE PLAGUE IN BOMBAY.—At a largely attended meeting of the Kief Medical Society Professor Vuisokóvitch recently gave an account of his expedition to Bombay to study the outbreak of plague. The Russian Commission of which he was the head had made a careful study of the epidemic from the clinical, bacteriological, and other aspects, and the general impression they had gathered was that although plague is a very severe disease yet it is easier to deal with and control than some other diseases such as diphtheria or cholera. The plague bacillus dies quickly if completely dried up and it cannot live long in water. The disease is spread from man to man directly or by the medium of fomites; it is in fact a purely "house-disease." The part played by rats in spreading it is still doubtful. The most successful measures against the spread of the epidemic have been the following: the searching out of cases; their segregation in hospitals; removal of the healthy from an infected house; disinfection of the house and contents; examination of persons arriving at, or departing from, any district; and an eight or ten days' quarantine. Unfortunately these measures met with resistance in an unenlightened community; consequently it is of more importance to endeavour to keep the infection out of a country or district. This is not difficult if proper precautions are taken on the frontier. Professor Vuisokóvitch stated that neither Yersin's nor Khafkin's prophylactic inoculations had proved to be quite satisfactory. In monkeys neither gave more than ten or fourteen days' immunity. The best results followed the injection of a fresh agar cultivation, killed by heating to 60° C. for one hour. Yersin's serum had given very encouraging results as a curative agent. Among 150 patients so treated the mortality had, it is true, been 40 per cent., but it would probably have been less could many of the patients have been seen at an earlier stage of the disease.

Appointments.

Successful Applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.

BREW, C., M.B., B.Ch. Dubl., has been appointed a Medical Officer for Bray Dispensary.

CLOUGH, JOSEPH, L.R.C.P. Lond., M.R.C.S., has been appointed a Medical Officer for the No. 1 Sanitary District of the Hunslet Township, vice A. Nicholson, resigned.

DICKSON, J. D., M.D. Irel., M.Ch., L.R.C.S. Irel., has been re-appointed Medical Officer of Health by the Marlow Urban District Council.

HODGE, S. R., M.R.C.S., L.R.C.P. Edin., has been appointed a Clinical Assistant to Out-patients at the Chelsea Hospital for Women.

HOOLE, H., M.D. Lond., M.R.C.S., has been appointed Chief Medical Examiner in Great Britain and Ireland for the National Mutual Life Association of Australasia.

JACOB, E. L., M.R.C.S., has been re-appointed Medical Officer by the Walton Urban District Council.

JOHNSTONE, J. L., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health by the Orrell Urban District Council.

MACDONALD, J., M.B., C.M. Edin., has been appointed Medical Officer for the Forbes Dispensary, Inverness, vice G. A. Lang.

MARR, GEORGE, M.B., C.M., has been appointed a Clinical Assistant to Out-patients at the Chelsea Hospital for Women.

MASON, F. W., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed a Medical Officer for the Nos. 1 and 5 Sanitary Districts of the York Union.

MILLIGAN, H. N. D., M.B., C.M. Edin., has been appointed a Member of the Medical Staff of the Linen and Woollen Drapers' Institution.

MORRIS, CYRIL G., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Fourth District of the Bath Union, vice F. W. Hanham, resigned.

MURRAY, WM., M.A., M.B., C.M. Aberd., has been appointed Resident Surgeon at the Birmingham General Dispensary.

NABARRO, D. N., B.Sc., L.R.C.P., M.R.C.S., has been appointed a House Physician, University College Hospital.

SHARPE, S. H., M.B., B.S. Dubl., has been appointed Senior Resident Surgeon to the Jervis-street Hospital, Dublin.

SLOCOCK, RICHARD, B.A. Oxon, M.R.C.S., L.R.C.P., has been appointed House Surgeon at the Royal Portsmouth Hospital.

STEVENS, A. E., M.B. Durb., M.R.C.S., L.R.C.P., has been appointed by the Indian Government for Special Plague Duty in Bombay.

STREET, A. Ernest, L.R.C.P. Lond., M.R.C.S., has been appointed Second Assistant Medical Officer for the Lewisham Union Infirmary.

WHYTE, G. F., M.B., C.M. Edin., has been appointed a Resident Medical Officer for the Dundee Sick Poor Hospital.

WILKINSON, J. HOWARD, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health for the County Borough of Dudley.

WADE, R., M.R.C.S., has been appointed Medical Officer of Health for the Highbridge Urban Sanitary District.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ADDENBROOKE'S HOSPITAL, Cambridge.—Resident Assistant House Surgeon. Board, lodging, and washing provided in the hospital. No salary.

BRECKNOCK COUNTY AND BOROUGH INFIRMARY.—Resident House Surgeon, unmarried. Salary £70 per annum, with furnished apartments, board, attendance, fire, and gas. Applications to the Secretary, 6, Bulwark, Brecon, South Wales.

BRIGHTON AND HOVE LYING-IN INSTITUTION AND HOSPITAL FOR WOMEN, West-street, Brighton.—House Surgeon, unmarried. Salary £80 per annum, with furnished apartments, board, gas, coals, and attendance.

BRIGHTON THROAT AND EAR HOSPITAL, Queen's-road, Brighton.—Non-resident House Surgeon. Salary at the rate of £52 per annum.

CARDIFF INFIRMARY.—Assistant House Surgeon for six months. Board, washing, and apartments provided.

DERBYSHIRE ROYAL INFIRMARY.—Resident House Surgeon and a Resident House Physician for twelve months. Salary of House Surgeon £100 per annum and of House Physician £80 per annum, with apartments and board in both cases.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Glamis-road, Shadwell, E.—House Physician for six months. Board, residence, &c., provided, and an honorarium of £15 15s. granted conditionally.

HEREFORD GENERAL INFIRMARY.—Resident House Surgeon, unmarried. Salary £100 per annum, with furnished rooms, board, washing, gas, coals, and attendance.

LIVERPOOL DISPENSARIES.—Head Surgeon. Salary £200 per annum. Also an Assistant Surgeon. £80 for the first year and £90 afterwards, with apartments, board, and attendance in each case. Both must be unmarried. Applications to the Secretary, 31, Moorfields, Liverpool.

PARISH OF ROUSAY AND EGILSHAY, Orkney.—Resident Medical Officer. Salary £51 sterling per annum. Apply to the Clerk of the Parish Council, Rousay, Orkney.

PARISH OF ST. GILES, CAMBERWELL.—Assistant Medical Officer for the Infirmary, at Havill-street, Camberwell, and the Workhouse at Gordon-road, Peckham, also for Relief Duty at the Constance-road Workhouse of the Parish, for one year. Salary £50, with apartments board, and washing. Applications to the Clerk to the Guardians, Guardians' Offices, 29, Peckham-road, S.E.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone-road, London.—Assistant Resident Medical Officer for four months. Salary at the rate of £50 per annum, with board, residence, and washing.

ROYAL BERKS HOSPINAL, Reading.—House Physician for six months. Salary £60 per annum, with board, lodging, and washing. Also Assistant Medical Officer for six months. Board, lodging, and washing provided, and an honorarium of 10 guineas awarded conditionally.

ROYAL LONDON OPHTHALMIC HOSPITAL, Moorfields, E.C.—Non-resident Assistant House Surgeon to Out-patient Department. Salary £75 a year.

SALISBURY INFIRMARY.—Assistant House Surgeon for six months, unmarried. Board, lodging, and washing provided, and an honorarium of £10 given conditionally.

ST. THOMAS'S HOSPITAL, Albert Embankment, Westminster-bridge, S.E.—Assistant House Physician.

STROUD GENERAL HOSPITAL.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

UNIVERSITY COLLEGE, Liverpool.—Senior Demonstrator of Physiology. Salary £125.

VICTORIA HOSPITAL FOR CHILDREN, Queen's-road, Chelsea, S.W.—Dental Surgeon.

WALLASEY DISPENSARY.—House Surgeon, unmarried. Salary £150 per year, with furnished house, coal, and gas.—Applications to Mr. W. Heap, Elm Mount, Penkett-road, Liscard, Cheshire.

WIRRAL CHILDREN'S HOSPITAL, Woodchurch-road, Birkenhead.—House Surgeon. Salary £50 per annum, with board, apartments, and laundry. Applications to the Honorary Secretary, 5, Bamford-place, Liverpool.

YORKSHIRE COLLEGE, LEEDS.—Joint Lecturer on Forensic Medicine in the Medical Department.

Births, Marriages, and Deaths.

BIRTHS.

BARTON.—On Nov. 24th, at Sunnyside, Wimbledon, the wife of P. Fred. Barton, B.A., M.R.C.S., L.R.C.P., of a daughter.

ELLERTON.—On Nov. 20th, at Priory-terrace, Leamington, the wife of J. F. Heise Ellerton, M.D., of a daughter.

FREELAND.—On Nov. 17th, at Beaumont-street, Portland-place, the wife of E. Harding Freeland, L.R.C.P. Lond., M.R.C.S., of a son.

HORNER.—On Nov. 22nd, at St. Mary's-road, Walthamstow, the wife of Charles J. Horner, L.R.C.P. Lond., M.R.C.S., of a son.

LUCE.—On Nov. 18th, at Burton-road, Derby, the wife of Richard H Luce, M.B., F.R.C.S., of a daughter.

LUFF.—On Nov. 18th, at 31, Weymouth-street, W., the wife of Arthur P. Luff, M.D, F.R.C.P., of a daughter.

TAYLOR.—On Nov. 17th, at Boscombe, Hants, the wife of James Taylor, M.D., of a son.

MARRIAGES.

PHILIP—PONDER.—On Nov. 23rd, at St. Mary's Church, Kippington Sevenoaks, Andrew Philip, M.B., of Newport, Fife, to Alice Marion, eldest daughter of J. Edwin Ponder, of Sevenoaks, Kent.

WICKHAM-GILLING.—On Nov. 17th, at St. Peter's Church, Bournemouth, Gilbert Henry Wickham, M.B., second son of the Rev. H. J. Wickham, of Winchester, to Emma, daughter of the late John Gilling, of Linkfield Court, Bournemouth, and Redhill, Surrey.

DEATHS.

CARTER.—On Nov. 19th, at Hastings, Charles Henry Carter, F.R.C.S. aged 80 years.

HEDDLE.—On Nov. 19th, at St. Leonards, St. Andrews, M. Forster, Heddle, M.D., F.R.S.E., Emeritus Professor of Chemistry in the University of St. Andrews.

HORSFALL.—On Nov. 23rd, at Masham, Yorks, Henry Horsfall, M.D. St. And., aged 64 years.

WYMAN.—On Nov. 21st, at Red Brae, Putney-hill, Cuthbert Wyman, M.A., M.D., B.C. Cantab., F.R.C.S. Eng., L.R.C.P., in his 32nd year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (29th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.).

TUESDAY (30th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.).

WEDNESDAY (1st).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.).

THURSDAY (2nd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.).

FRIDAY (3rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.).

SATURDAY (4th).—Royal Free (9 A.M. and 2 P.M.), Middlesex, (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

WEDNESDAY (1st).—BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Papers:—Dr. J. A. Shaw-Mackenzie: The Treatment of Syphilis by External Methods.—Dr. E. Solly (Harrogate): The Treatment of Syphilis at Harrogate.

OBSTETRICAL SOCIETY OF LONDON.—8 P.M. Specimens will be shown by Dr. Macnaughton Jones, Mr. Dauber, Dr. Boxall, Dr. J. Phillips, Dr. Lea, Dr. McCann, and others. Papers:—Dr. Tate: Three Cases of Pyometra complicating Cancer of the Cervix Uteri.—Dr. McKerron: The Obstruction of Labour by Ovarian Tumours in the Pelvis.

THURSDAY (2nd).—HARVEIAN SOCIETY.—Mr. Juler: The Syphilitic Diseases of the Eye and its Appendages. (Harveian Lecture.)

FRIDAY (3rd).—WEST LONDON MEDICO-CHIRURGICAL SOCIETY (West London Hospital, W.).—8.30 P.M. Clinical Evening. Dr. F. H. Low: A Series of Skiagrams illustrating the Location of Foreign Bodies.—Dr. J. B. Ball: A Case of Acromegaly.—Dr. S. Taylor: Three Cases of Symmetrical Nodes of Radii in Women.—Mr. Keetley: Two Cases of Stricture of the Œsophagus and of the Pylorus in the same Patient.—Mr. Bidwell: Note on a Case of Chancre of the Cheek.—Mr. McA. Eccles: Two Cases of Depressed Fracture of the Skull treated by Trephining.

LECTURES, ADDRESSES, DEMONSTRATIONS, ETC.

MONDAY (29th).—LONDON POST-GRADUATE COURSE.—London Throat Hospital, Gt. Portland-st., W., 8 P.M., Dr. E. Law: Demonstration of Cases.

TUESDAY (30th).—LONDON POST-GRADUATE COURSE.—Bethlem Hospital, 2 P.M., Dr. Craig: Moral and Impulsive Insanities.—Hospital for Skin Diseases, Blackfriars, 4.30 P.M., Dr. Abraham: Leprosy.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3.30 P.M. Mr. Victor Horsley: Surgery of the Nervous System.

HOSPITAL FOR NERVOUS DISEASES (73, Welbeck-street).—4.30 P.M. Dr. T. D. Savill: On Disorders of the Nervous System characterised by Muscular Tremor, with cases.

WEDNESDAY (1st). — LONDON POST-GRADUATE COURSE. — Parkes Museum, Margaret-st., W., 4.30 P.M., Prof. A. Wynter Blyth: Disinfection and Disinfectants.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Acland: Data for forming a Prognosis in Pulmonary Tuberculosis, illustrated by Cases.

EVELINA HOSPITAL (Southwark-bridge-road, S.E.).—4.30 P.M. Mr. F. C. Abbott: The Surgery of Rickets. (Post-Graduate Course.)

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Dr. Ball; Throat Cases.

THURSDAY (2nd). — LONDON POST-GRADUATE COURSE. — Central London Sick Asylum, Cleveland-st., W., 5.30 P.M., Mr. J. Hopkins: Clinical Lecture.

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Barlow.

FRIDAY (3rd).—LONDON POST-GRADUATE COURSE.—King's College, 3 to 5 P.M., Prof. Crookshank: Tetanus, Rabies, and Cholera.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Nov. 25th, 1897.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb	Remarks at 8.30 A.M.
Nov. 19	30·46	W.	...	53	50	37	38	38	Foggy
,, 20	30·63	W.	...	57	55	38	45	46	Foggy
,, 21	30·66	S.W.	...	55	53	46	49	50	Cloudy
,, 22	30·67	E.	...	59	52	45	45	46	Foggy
,, 23	30·49	N.E.	...	45	45	43	43	44	Overcast
,, 24	30·43	S.W.	...	48	48	39	40	41	Foggy
,, 25	30·22	S.E.	...	56	50	41	46	48	Overcast

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

CHINOSOL FOR THE ANTISEPTIC TREATMENT OF TUBERCULOSIS.

OF late years the value of the administration of antiseptics in some cases of tuberculosis has been generally acknowledged; the antiseptics which have hitherto been chiefly employed have been creosote and guaiacol. In the *Allgemeine Medicinische Central-Zeitung*, No. 75, 1897, Dr. A. G. Cipriani has given an account of some cases of tuberculosis in which he has employed chinosol. This substance has been known for some time as a non-irritating and comparatively non-poisonous antiseptic, but we believe it has not been employed previously for tuberculosis. Dr. Cipriani gives notes of eight cases which he has treated, three of the cases being examples of tuberculous glands; in two cases there was tuberculous caries of bone; and in three cases the tuberculosis had attacked the lungs; in these three cases the chinosol was given by the mouth, but in the others the drug was injected locally in the form of a watery solution. When administered by the mouth one gramme was given during the day in divided doses, and it seems to have been well borne. In all the cases rapid and apparently permanent improvement followed the treatment. The number of cases is too small to justify any opinion being formed as to the real value of the drug, but since chinosol appears to be harmless, even in somewhat large doses, the treatment certainly deserves a more extended trial.

Edina informs us that he knows of a case where an American university has conferred the degree of Doctor of Medicine on a layman who had merely presented a thesis. He asks our opinion of the "degree" and of the "university." The institution has either been itself imposed upon or it is a bogus university—a degree shop—of which there once were many in the States. We do not know the place by name.

A MISTAKEN DIAGNOSIS UNDER DIFFICULT CIRCUMSTANCES.

A FRENCH medical journal mentions a case which shows how seriously a medical man may occasionally be blamed for the consequences of a diagnosis which, made under most unfavourable circumstances, may ultimately be shown to have been mistaken. A workman fell into a kneading-machine, and when he was extricated was found to be covered with wounds and to have sustained several fractures, amongst others the surgeon who attended him made out one of the neck of the femur. The man was unconscious for a fortnight, but after a couple of months' careful and assiduous attention the medical man had the satisfaction of being able to allow his patient to get up. The fractured femur, however, was shortened considerably. The man being insured against accidents, the company sent its own medical adviser to see the case, and he reported that the neck of the femur had not been fractured but that there was an unreduced dislocation of the hip. The company, not recognising the great difficulty of diagnosing and treating such a complicated case, have put in a claim against the medical man for 80,000 francs and the patient has added a claim for 10,000 francs compensation. What view the French law-courts will take of the matter remains to be seen.

R. P.—We do not recommend individual practitioners. The matter is one upon which the family medical man can best advise. If he or the patient's friends require a second opinion he will know the most suitable consultant.

WANTED SUGGESTIONS FOR TREATING A GANGRENOUS ULCER.

To the Editors of THE LANCET.

SIRS,—If you will insert the following notes in THE LANCET you will confer on me a great favour. Some six weeks ago I was consulted by a man who had received a slight injury on the front of one of his tibiæ which caused a small sore. He went to a druggist, who gave him a mixture of nitrate of silver and water, this solution was to be painted on the sore night and morning. After doing so for three weeks the patient applied a poultice and removed the scab, leaving a deep ulcer two inches in diameter. The case then came under my care. The upper two-thirds of the ulcer quickly healed, but the lower third gradually spread and encroached on the healthy skin, at the rate of about an eighth of an inch per diem. The patient is a most docile one and carries out all instructions most assiduously. So far my treatment has not improved the local condition, and I should very much like to have advice from some of the readers of THE LANCET.

I am, Sirs, yours faithfully,

Belmont Lodge, New Eltham, S.E., Nov. 23rd, 1897. JOHN D. RICE.

A RASH OPERATOR PUNISHED.

A CASE which for some time past has been much discussed locally, as well as throughout the whole medical profession in France, was recently decided in the Pau Court of Appeal. The circumstances were briefly as follows. A young medical practitioner named Lassalette, residing in the town of Pau, and who had qualified only about eighteen months previously, having been called in to attend a woman who was complaining of an abdominal tumour undertook to perform one of the most serious operations in modern surgery—namely, total hysterectomy, in spite of the fact that a distinguished surgeon of Bordeaux had given it as his opinion that active intervention was contra-indicated. It should, however, be noted that the consultant's views were based on an error in his diagnosis, for he believed that the patient was suffering from a mobile cyst, whereas in reality the affection was a very large fibroma. On the day fixed for the operation the young surgeon, accompanied by a medical man younger than himself and his own chamber-maid as his sole assistants, proceeded to the woman's lodgings, which were on the ground floor of a many-storeyed building. The chamber-maid having administered chloroform the patient, as soon as she was completely anæsthetised, was carried up to one of the landing places and placed upon an ordinary kitchen table. The operation is said to have lasted two hours, but although apparently successful the patient died suddenly during the night. An official inquiry was at once instituted, and at the necropsy, which was duly conducted by experts, two faults of major gravity were disclosed. A forgotten artery forceps was found inside the abdomen and also the unsecured stump of an artery, the bleeding from which had been the immediate cause of death. Upon this evidence the operating surgeon was condemned to two months' imprisonment and a fine of 500 francs; but dissatisfied with the sentence, and apparently refusing to admit that he was in the slightest degree blameworthy, he lodged an appeal. The result of this ill-advised procedure has now been declared. The presiding judge being of opinion that there was total absence of all extenuating circumstances increased the first pronounced imprisonment by a month and confirmed the fine.

PURE TOBACCO.

THE remarks which we have had occasion to make more than once in this journal as to the desirability of tobacco being pure and free from artificial flavouring or scents have created some interest in this matter and not the least amongst the trade. It may be noticed with satisfaction that some members of the tobacco trade are honest enough to admit that inferior tobacco is often scented, a practice which even they regret as bringing tobacco into discredit. "It is a mistake," says one in a communication to us, "this flavouring; it is educating smokers falsely and spoiling their palate." "If a tobacco is good," he adds, "there is no need of any added flavouring." This coming from a member of the trade is an interesting endorsement of our views. We have also received various specimens of tobacco to illustrate what unsophisticated tobacco is. Mr. Thomas R. Seymour, of 4, North-street, Bristol, encloses us some tobacco for the pipe about the purity of which there can be little doubt, and it is far preferable to the stuff which reeks of Tonquin bean or other equally objectionable scent. Again, Messrs. Oakes and Co., of 46, New Broad-street, have sent us specimens of their "Little Indians" cigarettes which are all tobacco, the wrapper being tobacco and not paper. The combustion of paper materially spoils the flavour of good tobacco, but when the wrapper is tobacco this is avoided. The cigarettes are mild-smoking, of agreeable flavour, and free from acridity.

Sol.—If the false rumour is public it is right that the correction should be made publicly.

"THE PARISH NURSE DIFFICULTY."

To the Editors of THE LANCET.

SIRS,—The article written by me to which you refer in an annotation in THE LANCET of Nov. 20th was written with a purpose—i.e., to draw attention to the fact that villagers cannot get nurses, that the present system of charity nurses is a failing in that if any of the chief subscribers die or leave the nurse has to be given up. Secondly, she is generally placed under a committee yet is responsible to no one. Thirdly, not being fully qualified is frequently found a drawback, as in country places the medical practitioner often lives miles away and cannot come at a moment's notice. Fourth, if infection breaks out the nurse is not available, that medical men fear the introduction of women doctors, but they are wrong; the women doctors would prove valuable aids. I use the word "doctor" instead of nurse because the training is different and the knowledge wider. The woman doctor would call in the man doctor in serious cases. She could work under him and owe her appointment to him if it was ordered that the medical man of a district might grant her a working certificate. The woman doctor or doctoress might also earn a small fee as medical inspector of village schools.

As to the question of chemists being consulted instead of medical men, it is widely done. I mentioned the fact purposely. There are many trifling ailments for which it is unnecessary to send for a medical practitioner. The nursing of the middle-class and poor can only be systematically worked from a centre. The technical education funds now given to agricultural, horticultural, and other scholarships, or spent in superfluous education in minor sciences, might more worthily be applied to establishing a county nursing home worked on sound business-like principles so as to be self-supporting. Our poor do not want pauperising. They are willing to pay, but no hospital nurse is fitted for village work.

I hope you will find space for this letter as in the article referred to you only quoted a few sentences.

I am, Sirs, yours truly,

Suthamstead-park, Nov. 22nd, 1897. E. E. THOYTS.

*** Miss Thoyts has not comprehended our remarks. An inferior order of general practitioners is not required.—ED. L.

Professional Etiquette.—The case submitted to us forms one more example of the ills that arise from medical men entering into bonds with lay employers. C's agreement being a more advantageous one to the society than B's the society naturally favoured C at the expense of B. We do not see why C should not obtain the material advantage of a house as he is under the material disadvantage of a strict contract.

THE PROTECTION OF BIRDS.

THE International Congress on the Protection of Birds, inaugurated at Aix-en-Provence on Nov. 9th under the auspices of the Ligue Ornithophile Française, of which M. Louis-Adrien Lerat is the president, was concluded on Nov. 13th. The protection of insectivorous birds useful to agriculture was the chief subject of discussion and it was decided that the resolutions adopted should be forwarded to the Governments of Europe through the French Minister for Foreign Affairs. Numerous French and Italian agricultural, horticultural, and sporting societies sent delegates to the Congress. Mr. and Mrs. Lemon, of Hillcrest, Redhill, Surrey, represented the Selborne Society and the Society for the Protection of Birds.

THROWING STONES AT A TRAIN.

APROPOS of this subject, upon which we commented strongly in our issue of Oct. 23rd, we are glad to see that a boy, aged fourteen years, was, at Brentford police-court upon Nov. 12th, sentenced to hard labour for one month for throwing a stone at a train on the London and South-Western Railway. This is good as far as it goes, but a sound birching would have been better still.

F.R.C.P. Edin., &c.—The district council are bound by law to pay for certificates of notification sent to them by any medical practitioner, without any limitation as to the practitioner in question being an assistant to another one or not. As regards medical officers of health we have quoted in our reprint of articles on "Difficulties under the Infectious Disease (Notification) Act" the decision of the Local Government Board to the effect that where a medical officer of health is "attending on or called in to visit the patient," he is entitled to his fee for notification "just as if he were an ordinary medical practitioner." Provided the visit in question is definitely one of attendance on the patient and not one of inspection as health officer the fee should, in our opinion, be always claimed. Failure to demand a fee legally due under the circumstances named can only be regretted on the ground that it is liable to lead to difficulties such as those which in this case affect not the health officer but another medical practitioner.

A BOOK ON STAMMERING.

To the Editors of THE LANCET.

SIRS,—Could you or any of your readers tell me of a small but reliable book on Stammering suitable for a schoolmaster to read who seeks to benefit a pupil? I am, Sirs, yours faithfully,

Nov. 22nd, 1897. W. R. K.

AN EXPLANATION.

THE Secretary, Bournemouth Hydro Establishment, recently forwarded to some members of the medical profession in London a magazine containing a sketch relating to the institution. She omitted to place sufficient stamps on the wrappers. We are asked to state that she is anxious to hear from any recipient who may have had to pay additional postage as she will at once forward four penny stamps.

MALIGNANT SCARLET FEVER.

To the Editors of THE LANCET.

SIRS,—I think the following sad case may be interesting to your readers. I attended two cases of scarlet fever in a house in this city. After these were convalescent the authorities stoved the house—it was supposed most efficiently. About a month after this a message was brought to my house—not one of urgency, but merely "would I call on my round." On reaching the house the mother told me that the patient, a girl, was unconscious. I at once went up to see the patient. On feeling her skin I was astounded. It felt like putting one's hand on a red hot coal, and on taking her temperature my thermometer registered 110½°F. The whole of the body was covered by an ecchymosed rash and the patient was quite unconscious and collapsed.

It is the first case of malignant scarlet fever I have seen and I hope it will be the last. The girl seemed to have no earthly chance, the whole disease only lasting twenty-four hours.

I am, Sirs, yours faithfully,

THOS. J. WALKER, L.R.C.P. & S. Edin., &c.

Burley Mount, Leeds, Nov. 21st, 1897.

During the week marked copies of the following newspapers have been received: *Western Morning News, Cambridge Express, Carlisle Express, Harrogate Advertiser, Leigh Chronicle, Royal Cornwall Gazette, Bradford Observer, Glasgow Herald, Essex Telegraph, Washington Post, Le Temps, Brighton Argus, Times of India, Pioneer Mail, Cambrian, Kidderminster Shuttle, Walsall Advertiser, Somerset Herald, Architect, Express and Star, Hampshire Telegraph, East Anglian Daily Times, Newcastle Leader, Builder, Liverpool Daily Post, North British Daily Mail, Grimsby News, Colchester Mercury, Sheffield Telegraph, Manx Sun, Leeds Mercury, Hereford Times, Sussex Daily News, Midland Mail, Worcester Herald, Leicester Post, Yorkshire Post, Birmingham Gazette, Derbyshire Times, Isle of Wight Observer, Lincoln Mercury, Norwich Mercury, Scotsman, Dundee Courier, Bristol Mercury, Kent Messenger, Manchester Guardian, Sanitary Record, Brighton Gazette, Huddersfield Daily Examiner, Lynn Advertiser, Hertfordshire Mercury, Local Government Chronicle, City Press, Willesden Chronicle, Mining Journal, Reading Mercury, Public Health, Engineer, Financial Times, Launceston Examiner, Surrey Advertiser, Weekly Free Press and Aberdeen Herald, Local Government Journal, Croydon Chronicle, Croydon Times, Croydon Guardian, Croydon Advertiser, Rotherham Advertiser, Willesden Chronicle, Daily Gleaner (Kingston, Jamaica), Market Rasen Mail, Dereham and Watton Standard, &c. &c.**

Communications, Letters, &c., have been received from—

A.—Mons. J. Astier, Paris; Auram, Lond; Alpha, Sheffield.

B.—Mr. G. Y. Baldock, Lond.; Borough of Preston, Town Clerk of; Messrs. Burgoyne, Burbidges, and Co., Lond.; Brighton Throat and Ear Hospital, Secretary of; T. B. Browne, Ltd, Lond.; Messrs. Bates, Hendy, and Co., Reading; Bristol, Medical Officer of Health of; Messrs. S Buckingham and Son, Colchester.

C.—Dr. J. Comby, Paris; Messrs. Crossley, Moir, and Co., Lond.; Mr. E. S. Cardell, Tonbridge; Cambridge Graduates' Medical Club, Secretary of;

D.—Mr. T. Dixon, Lond.; Dr. J. Don, Zuurfontein, Cape Colony; Sir Richard Douglas-Powell, Lond.; Mr. J. Dowie, Edinburgh; Derbyshire Royal Infirmary, Derby, Secretary of.

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Y.—Yorkshire College, Leeds.

Letters, each with enclosure, are also acknowledged from—

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D.—Mr. T. F. Dillon, Rhos; Mr. W. Davidson, Gringley-on-the Hill; Dr. H. E. Durham, Cambridge; Delta, Lond.; Dr. A. S. Delépine, Manchester; Doctor, Balham; Deltoid, Lond.; Dundee Royal Infirmary, Secretary of.

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W.—Dr. F. R. Walters, Lond.; Dr. Wickham, Lond.; Messrs. Willing and Co., Lond.; *Welshman* Newspaper Co., Carmarthen; Professor A. E. Wright, Netley; Messrs. Wilcox and Co., Lond.; Mrs. Wiseman, Lond.; W. B., Leicester; Dr. R. A. Williams, Ogmore Vale; Messrs. J. Wright and Co., Bristol; Wolverhampton and Staffordshire General Hospital, Secretary of.

Z.—Zeta, Lond.

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